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GEORGE M. MacKEE, M.D., NEW YORK
Editor

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BLUE ATROPHY OF THE SKIN FROM COCAINE INJECTIONS.

By William S. Gottheil, M. D., New York.

THE condition herein recorded is the only one of the kind that I have seen: I have found in the literature only one recorded instance of its occurrence, and one of a similar result from morphine injections. This is remarkable in view of the commonness of these drug habits in our urban population, and the many thousands of injection sites that are necessarily seen every year in any large clinical service. I refer, of course, to the occurrence of atrophy with pigmentation, occasional and limited pigmentations without other change in the skin being sometimes seen after various forms of hypodermic medication; I have noticed them in several instances after the insoluble mercurial, hypodermic medication.

Case 1. Reported by Thibierge (*Ann. de Dermat. et de Syph.*, July-August, 1901). The patient was a woman, forty years of age. She had been addicted to morphine since the age of sixteen. The thighs were covered with pale, blue spots, looking like India ink tattooings, with slight cicatricial depression of the markings. Histological examination showed the presence of black grains in the cutis, insoluble in alcohol, potash, and concentrated acids. There was no iron reaction. It was decided that the granules were particles of carbon introduced with the injections, though there is no mention made of their source.

Case 2. Reported by René Horaud (*Lyon mèd.*, No. 23, 1907). On the corpse of a morphino-cocainist were found blue, depressed spots, chiefly on the arms and legs. The daughter of this woman, who had the same habit, showed similar lesions; she asserted positively that the cocaine injections alone produced the spots; morphine injections did not occasion them. Horaud found the lesions to be due to reduced iron clumped in the corium; he believed that this was partly from the needles, and partly due to adulterated injection salts.

To these cases I add the following:

Case 3. Frances R., female, thirty-one years of age, was admitted to Ward 13, City Hospital, Sept. 22, 1907, for abscesses of the thighs. She had been a drug habituate for seven years, using morphine and cocaine hypodermatically, separately or combined, and in undeterminable quantities. The general nutri-

tion was poor. She never had any trouble from her injections until three weeks prior to her admittance to the hospital, since which time a number of the needle punctures have become infected.

Examination. On the thighs and buttocks were a number of infections of the ordinary type, and there were a few on the arms. They were in all stages of evolution; from beginning lesions, due to punctures made in the last day or two, to healing abscesses that had opened and the recent scars of infections that had run their course. There were no old abscess sites nor lesions from infections contracted months ago, bearing out the patient's statement that it was only in the last few weeks that these unpleasant injection effects had occurred. On the other hand, the thighs, buttocks, and arms were studded with innumerable atrophic and pigmented lesions, each one of which, according to the patient's claims, had resulted from a certain injection that she took. She considered them entirely unimportant, since they did not bother her at all; and she was quite certain that they were not the marks of past infections like those for which she entered the hospital, but were the usual and inevitable results of her injections.

The lesions were localized, pigmented atrophies of the skin, more or less rounded in shape. Most of them were large-pea-sized; some were smaller, and a few were as large as a bean. Each one was a sharply cut depression in the skin, the integument of the affected area being palpably thinned. They were all colored blue, in shades varying from a light cerulean hue to a deep, blue-black. They formed a peculiar picture on her very white and anæmic skin, which looked at a distance as if it had been irregularly tattooed, or injured by the implantation of enormous powder grains.

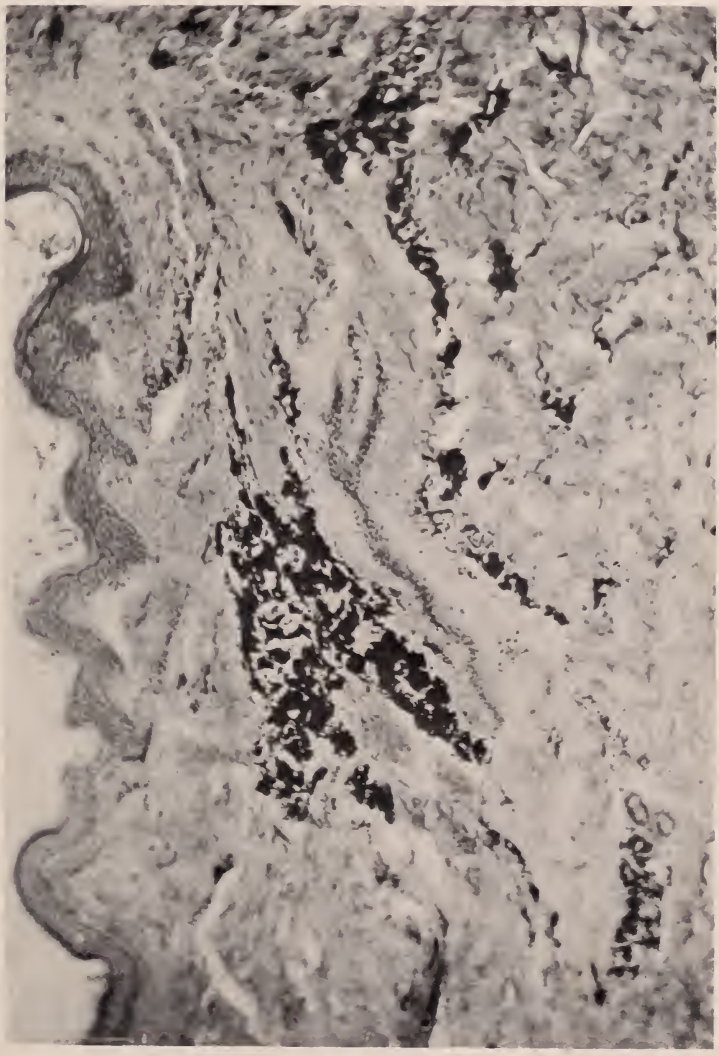
The patient had lived for a long time in a house with seven or more drug habituates, who all used narcotics, taking sometimes morphine or cocaine alone, and sometimes both together, and always by the syringe. The drugs were purchased in solution, which was always clear as water and the ordinary steel needles were employed. A number of other inmates of the house, the patient stated, had similar stains; but she was not sure that all of them had them. She was quite sure that from morphine alone no stains resulted; the puncture sites disappeared entirely in a short time. But when cocaine was used with the morphine, or when the former was used alone, a mark always resulted.

Her infected lesions were treated in the ordinary way by incision and drainage. It being necessary to continue the use of narcotics, a series of experiments were made with the two drugs alone and combined. In no case did any inflammatory reaction, atrophy, or pigmentation result.

Microscopic Examination. The very black pigment was found scattered through the various layers of the cutis, mostly in its central portion. It occurred in the form of more or less rounded or irregular granules, aggregated in places into irregular, larger masses. It lay among the collagen bundles chiefly in streaks, parallel to the surface of the integument and some of it quite plainly occupied the lymphatic spaces. In many places the pigment masses were surrounded by a moderately extensive small-celled inflammatory exudate. There were a few isolated pigment clumps in the subcutis, and occasional masses of the same around the coil glands. The corneous layer and the rete were unchanged. The collagen bundles were not apparently affected, but the entire cutis was thinner at the site of the pigment deposit than elsewhere. The deposit was entirely extra-cellular. On account of its small quantity, the chemical nature of the pigment could not be determined by the ferricyanide test.

Blue pigmentation without atrophy, after puncture of the skin for hypodermic medication, has been seen by a number of observers and from different drugs. I, myself, have seen it follow deep, intramuscular,

PLATE I.—To Illustrate Article by Dr William S. Gottheil.



Blue atrophy of the skin from cocaine injections.

insoluble mercurial injections. Gaillard (*Bull. mém. Soc. méd. d. hôp. de Paris,* June 18, 1908) showed a patient at the Medical Society of the Paris Hospitals with multitudes of these lesions from morphine. A similar case had been previously shown by Moutard-Martin. Blood pigment as the cause of the coloration can be excluded, since it would have soon been absorbed. It has been supposed that particles of steel from the needles might have become detached and entered the punctures, but this does not explain the rarity of the pigmentation as compared with the great frequency of the hypodermic morphine habit. In a service like that of the City Hospital, scores of habituates are seen every year, yet the pigmentation is a noticeable rarity. Another explanation is the introduction of particles of lamp-black into the puncture; this would only be likely to occur when sterilization by flaming was employed, and none of the patients mentioned above did that.

Some trials made by my assistant, Dr. Satenstein, seem to throw some light on the pigmentation herein recorded, though it leaves the atrophic changes unexplained. Morphine solutions allowed to remain in the lumen of the ordinary hypodermic needle over night, either dried up or came out as a clear drop in the morning. Cocaine solutions, on the other hand, if any remained in the metallic channel next day, showed a distinct bluish tint. Possibly this may be due to the action of the hydrochlorate on the metal on prolonged contact. It does not explain, however, either the atrophy or the blue pigmentation that in rare instances follows the morphine or the mercurial injections.

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CONSIDERATIONS ON LUPUS ERYTHEMATOSUS.*

By A. Ravogli, M.D., Cincinnati.

LUPUS erythematosus is still considered as a disease of unknown origin. Jadassohn[1] defined lupus erythematosus as an inflammatory disease of the skin whose ætiology was unknown. Robbi[2] wrote that the cause of lupus erythematosus was not clear; that statistics, experiments with tuberculin, histo-pathological studies and animal inoculations had failed to prove that lupus erythematosus was to be ascribed to tuberculosis. Many observers, on the other hand, are firm in their belief that lupus erythematosus is a tuberculous affection of the skin, while some, as Arndt[3], Ullmann[4], Polland[5], Kyrle[6], Fordyce[7], Wile[8], and others have entertained the tuberculous origin of the disease.

Hidaka[9], while studying lupus erythematosus, observed rod-like bodies resembling tubercle bacilli and a substance which closely simulated Much's granules. These positive results, however, did not persuade him against the possibility of lupus erythematosus being produced by some organism other than the tubercle bacillus. Arndt[15], also, demonstrated the presence of what appeared to be tubercle bacilli in sections made from acute lupus erythematosus.

Kaposi[10], in 1872, described an acute lupus erythematosus with an appearance of erysipelas, and he called it erysipelas faciei perstans. He had observed eleven cases, of which six had died of pulmonary tuberculosis. Kaposi believed that the acute forms of lupus erythematosus were in strict relation with tuberculosis, which he considered as a predisposing factor. The same views were expressed by Boeck. Sequeira and Balean[11], in eleven cases of lupus erythematosus acutus, found phthisis in five, tuberculous glands in three, while in the others no manifestation of tuberculosis was demonstrable. Both authors maintain that lupus erythematosus is a tuberculous disease, or at least that tuberculosis has a great influence in its ætiology.

Jadassohn, although believing the disease to be of unknown origin, reported 22 cases of lupus erythematosus disseminatus acutus, in which it was found that fifteen had died with acute affections of the lungs, of which twelve were pneumonia, one pleuritis, one uncertain and one influenza. Kreibich[12], Krause and Bohac[13], although deny-

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25 to 27, 1911.

ing the relation of lupus erythematosus acutus to tuberculosis do, nevertheless, maintain that it is the result of toxines which, through irritation of the vasomotor centre, cause this toxic erythema. Yet, although they speak of these supposed toxines, their cases had died with affections of the respiratory organs.

Verotti[14] reported a case of lupus erythematosus diffusus in a woman twenty-three years of age who succumbed to tuberculosis, and he considered the lupus erythematosus to be a toxic tuberculide.

The distinction adopted by Kaposi of lupus erythematosus discoideus, or circumscriptus, and of lupus erythematosus diffusus, or disseminatus, is of the greatest importance. All the other forms described by Besnier and Brocq, as vascular, follicular, etc., are nothing more than varieties of the same affection. The most striking differential feature of the two types is the clinical course. Lupus erythematosus discoideus is exceedingly chronic, gradually progressive, spreads peripherally and when healing occurs atrophic tissue remains. As an illustration I will report a case occurring in a musician, who has had the discoid type of the disease for thirty years. The whole face is affected and the skin has the appearance of parchment studded with minute holes. The skin of both cheeks, toward the beard and under the right temporal region, is red and swollen, showing that the disease is still active. The patient has always had good health, has continued his occupation and has taken treatment very irregularly. On the contrary, the few cases of lupus erythematosus diffusus, or disseminatus, that I have had have shown a rapid course and have all died. A Sister of Charity, some years ago, had a lupus erythematosus of the face and hands, in the form of large patches, bluish-red in color, swollen and glossy, with little depression in the centre. An injection of 1/100 mg. of tuberculin produced a reaction with a temperature of 105° F. She succumbed to a malignant type of pulmonary tuberculosis two months after my first observation. Another case of the diffuse type of lupus erythematosus in my practice was in a lady. It was limited in the beginning to the face and hands, and spread to nearly the whole body. The patient developed acute miliary tuberculosis and died.

The difference between the two conditions is so marked that they have to be considered as different diseases. Both are diseases of tuberculous origin, but the processes are of different nature. It is not difficult to see that lupus erythematosus discoideus is not very different from lupus vulgaris. Indeed, there are cases of lupus vulgaris

somewhat superficial, which are very difficult to differentiate from this type of lupus erythematosus.

Fig. 1. A married woman, twenty-eight years of age, who has always enjoyed good general health, but for three years has been affected with lupus erythematosus discoideus. It is in the form of red patches, covered with grayish, adherent scales. The disease first affected the middle of the nose, but slowly, by peripheral extension, covered the whole organ. Not long afterward another patch developed on the left cheek. This lesion finally joined the patch on the nose. It covered the whole cheek and had invaded the vicinity of the inferior eyelid. The patch on the nose spread to the left cheek, so that there was one large lesion covering most of the face. On the concha of the right ear there was a round, red patch covered with thin scales and crusts, the latter being due to hæmorrhage caused by any slight irritation. Another reddish-brown patch was in the post-auricular region of the left side. In the middle, dark red points could be seen, which were the excretory ducts of the sebaceous glands. The edges were red and somewhat elevated. The only subjective symptom was pruritus, which caused considerable scratching and for this reason bleeding would occasionally result.

A glance at the lesions in the last patient will show that the affection is superficial, destructive in character which, although not bringing about an ulceration, is, nevertheless, the cause of necrosis of the epidermis. The necrotic condition of the epidermis leads to the formation of scales. The congestion of the blood vessels causes the peculiar erythema, and is the cause, also, of the increased secretion of the sebaceous glands. The effusion of infiltrating cells in the connective tissue of the papillary layer causes sclerosis and a superficial scar. These peculiarities are constantly found in lupus erythematosus discoideus, and are considered to be the most important symptoms of the disease. When any one of these features is more prominent than another it produces one of the different varieties of the disease, such as lupus erythematosus marginatus, nodularis, etc.

In the pathological process of the disease one finds a diffused infiltration of lymphocytes in the papillary layer, with some hypertrophy of the papillæ (Figs. 3 to 6). There are in some places foci of infiltration, which resemble the formation of the tuberculous nodule of lupus vulgaris. The important point is the hypertrophy of the collagenous tissue and the enormous quantity of plasma cells, which form the tuberculous "plasmom" as it is called by Unna[16]. These elements formed by the reaction of the cells of the tissues make a kind of boundary, or a protective capsule, which prevents the spreading of the bacilli in the deeper tissues, and in consequence the organisms, finding themselves in an unpropitious ground, die and the lupus

patch heals up by itself, leaving that peculiar, whitish, parchment-like scar.

In several of my cases some years ago, I gave injections of 1/100 mg. of tuberculin, and in every case I obtained a general as well as a local reaction. The reaction consisted in fever six hours after the injection and locally an erythema with swelling of the edges of the lesions. In some cases the local reaction was so beneficial that an involution took place and healing resulted. I am convinced that tuberculin is a means of diagnosis of and that it may be beneficial as a treatment of lupus erythematosus.

Lupus erythematosus discoideus has no influence on the general system. It remains on the face for years, showing that it is only a local tuberculosis. It would not be too hazardous in the present status of science to state that lupus erythematosus is only a *variety of lupus vulgaris*. Lupus vulgaris affects the deep layers of the derma, while lupus erythematosus remains limited to the papillary layer. The difference is only in the anatomical strata of the skin affected.

The fact still remains that tubercle bacilli have never been found in lupus erythematosus and for this reason many authors still doubt the tuberculous nature of the disease. In many tuberculous affections, bacilli cannot be demonstrated, yet their presence cannot be denied. The reaction to the tuberculin is a criterion of the tuberculous nature of the disease. Zeiler[17] demonstrated that it is not always necessary to have the corporeal constituents of the tubercule bacilli in order to produce the histological structure of tuberculosis, but that solutions of substances originating from tubercle bacilli are capable of producing the change. The greatest part of the activity of tuberculin is due to the dissolved albuminous substances, endotoxines, and this activity can be obtained from clear solutions without the coöperation of bacteriolysin. Zeiler believes them to be products of the exhaustion of the endotoxine. Indeed, in individuals with tuberculous ulcerations following an infected wound, the tuberculin will give a general reaction, but this reaction will not occur in those who have always been free from tuberculosis. The reaction occurs only in those organisms influenced by a tuberculo-toxic condition.

According to Liebermeister[18], the tubercle bacilli are found mostly in the tunics of the veins, where they remain latent, but, when tuberculin is injected, they are made active and produce the

genuine histologic tuberculous affection of the skin. The typical histological structure of the tubercle is not a sure morphological sign of tuberculosis, since the same infiltration, with the same giant cells, is found in other morbid processes.

That the skin does not offer a favorable soil for the growth of the tubercle bacilli is seen from the lack of reaction of the serum of patients affected with lupus to an anti-tuberculin, as found by Eitner and Stoerk[19]. This reaction was found in 17 out of 40 phthisics, while none was obtained in patients affected with lupus. This shows that in the ulcerative processes of the skin the pouring of the tubercle bacilli into the circulation, if it occurs at all, is very slight and not constant as in tuberculosis of the lungs. Very likely the organisms in the derma die, as there are no consequences, nor metastases in the system. For all these reasons I maintain that lupus erythematosus discoideus is a local tuberculosis.

One important question is: how is it acquired? To this question I would reply that lupus erythematosus discoideus is contagious and inoculable. Auto-inoculation is commonly observed. Rubbing with a towel has carried the disease from one site to another. The symmetrical disposition is only accidental. I have at present under treatment a lady who, for eight months, has had two patches of lupus erythematosus of the exact size of a finger tip on the external surface of the tragus of both auriculæ. The patient, who is nearing the fifties, was going to a "beauty parlor" to have her face massaged and it is exactly in the affected regions that the masseuse set the tips of her little fingers, in order to give the massage with her thumbs. The first patch of lupus erythematosus discoideus often makes its appearance where the bridge of the eyeglasses is in contact with the nose. It is known, also, from the studies of Riley[20], and Graham Smith[21], that the house fly often carries tubercle bacilli, so that an individual might be infected in this manner.

The Baumgarten[22] law still holds good: that the tubercle bacilli always produce a local lesion at the point of invasion. Koch[23], in 1891, scarified the skin of rabbits and rubbed over the spot a pure culture of tubercle bacilli. The excoriations healed up in one day, but from ten to fourteen days after, little nodules were found, which broke down and remained ulcerated until the death of the animal. But when an animal had been successfully inoculated and after four or six weeks another inoculation was tried, the symptoms were not like those of the first experiment. One or two days later the place of inoculation took on a reddish-brown color, and soon

necrotized, leaving a superficial ulcer, which healed up without producing any infection in the lymph glands.

Bärmann and Halberstädter have inoculated apes with tuberculosis. Tuberculous products were inoculated through the scarified skin of the brow, and in every one of the animals, between three and five weeks from the inoculation, inflammatory swelling and ulceration followed. In some cases small red nodules on an inflamed base occurred, which did not ulcerate but produced desquamation, reminding one of lupus of the human species. Experiments conducted by rubbing on the skin of guinea pigs, sputum from tuberculosis patients, were carried on by Cornet[26], Baumgarten[27], and Nagelschmitt[28]. As a consequence of this inoculation on the skin of the abdomen of those animals deprived of the hair, ulcerations, lupus nodules, diffuse redness with desquamation or enlargement of the glands occurred and in every case general tuberculosis followed.

It seems from the experimental inoculations that there is a difference in the virulence of different strains of the tubercle bacillus, depending upon whether it is of human or of bovine origin. When cultures of the bovine organism were used, tuberculous lesions appeared at the site of inoculation at the end of ten days which were of a very severe type and were followed by deep ulceration. When cultures of the organism taken from human beings were used, the lesions appeared later, remained limited to the scarified area and were not so severe in their course.

The experiment of Lewandowsky[29] will be found of great interest for our purpose. He inoculated under the skin of a guinea pig a piece of lupus tissue. After five weeks the culture gave positive results, showing nodules, redness and superficial ulceration. The animal was killed after five months and no signs of general tuberculosis were found. In the same way no bacilli were found subsequent to inoculation with material from lichen scrofulosorum, folliclis or erythema induratum. Lewandowsky remarked that in these tuberculous affections of the skin there may only be a few bacteria. These may die spontaneously or as a result of the preparation of the histological specimen. For this reason the finding of no bacilli in these cutaneous affections does not exclude them from this class of tuberculosis.

In the tuberculous forms of skin eruptions are found, histologically, giant cells and lymphocytes in the middle, and plasma cells in the periphery; bacilli are only rarely found and with great difficulty.

The recovery of the tuberculous skin lesions occurs through proliferation of the connective tissue elements. In the first stages of evolution of the tuberculous nodules, the tubercle bacilli disappear very likely from the phagocytic action of the giant cells. The organisms are found abundantly only in the last stages of an ulceration, when giant cells have disappeared and they find no more obstacles to their development. When the organism has lost the power to produce antibodies against tubercle bacilli, the production of bacteria is increased as the reaction of the skin is diminished. At this time, the last stage of tuberculosis, miliary ulcerative tuberculosis of the skin makes its appearance.

Lupus erythematosus diffusus or disseminatus, in my opinion, is a tuberculide. A glance at the accompanying illustration (Fig. 2.), shows the great difference between the two types of lupus erythematosus. The eruption occurred in a girl twenty-two years old, who was rather weak in her constitution. Her father had died of tuberculosis and her mother was weak and sickly. In a few days after the beginning of the eruption, her face, neck, chest, hands and arms were covered with a small papular exanthem, bluish-red in color. Nearly the entire face was affected; the forehead at the edge of the hair, the brow, temporal regions, cheeks, nose, ears and chin were all covered with the eruption, which showed epidermic scales and a greasy substance. The neck and the chest showed scattered groups of reddish-brown papules. The arms and especially the backs of the hands and fingers were covered with the same papules, reddish-brown in color, and the color was not materially affected by pressure. The girl had a slight elevation of temperature and the examination of the chest revealed dullness in the apex of the left lung. Subcrepitant and moist râles were heard in the suprascapular region of the same side. The patient had complained of a cough for some months past, and of abundant yellow expectoration in the morning. The girl was living outside of the city, and her affection could not be followed, but there was no doubt that she had tuberculosis of the lungs.

It is apparent that this case is entirely different from the other; here we have a general infection and the eruption is nothing more than an exanthematic manifestation of the infection of the whole system. It is possible that the tubercle bacilli, produced in large quantities on account of the lack of reaction of the organism, have centered in the circulation and as Liebermeister stated, have found their way into the tunics of the small veins and there, are producing

a deleterious action, which is revealed by the reddish papules, or bluish elevations on the cutaneous surface. This is the tuberculide, which is the result of tuberculosis of the internal organs, and the starting point of the spreading of the bacilli. It is also possible that antibodies formed in the internal organs may cause the death of some of the bacilli, and these dead or decayed bacilli are brought to the skin and cause tuberculides. Klingmüller[30] and Zeiler[31] are both of the opinion that the tuberculides are the product of unorganized matter from the bacilli circulating in the blood. Jadassohn[32], too, considers the production of the antibodies in the organism as the cause of the tuberculides. He claimed that tuberculides are more often found in mild and slowly progressing cases of tuberculosis than in the severe and acute general infection. According to my observations, this statement of Jadassohn is probably true for other kinds of tuberculides, as folliclis, lichen scrofulosorum, but not for lupus erythematosus diffusus, which is usually associated with severe and deep tuberculous infection of the organism. I am more inclined to the opinion that lupus erythematosus diffusus is the result of the tuberculous infection which has been carried to the tunics of the small veins.

The question of prognosis is of the greatest importance. Lupus erythematosus discoideus has not the injurious effect on the general organism as is seen in a local tuberculosis and with some patience and steady treatment is brought to recovery. On the other hand, lupus erythematosus diffusus has a bad prognosis; the patient sooner or later will die with tuberculous infection. No treatment can stop this eruption, which is connected with the general infection, and with the running down of the whole system.

I desire to thank Dr. Charles Goosman, of the Cincinnati Hospital Laboratory for making the photomicrographs.

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PLATE II.—To Illustrate Article by Dr. A. Ravogli.

Fig. 2.
Lupus erythematosus diffusus.

Fig. 1.
Lupus erythematosus discoideus.

PLATE III.—To Illustrate Article by Dr. A. Ravogli.

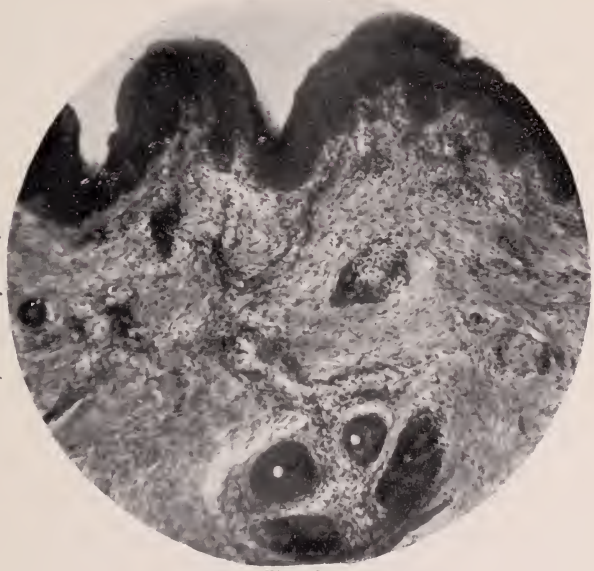

Fig. 3.

Lupus erythematosus.

a. Hypertrophy of epidermis.
b. Hypertrophy of papillæ.
c. Infiltration of papillary layer.
d. Enlarged and congested blood vessels.
e. Enlarged hair follicles filled with epithelium.
f. Proliferation of connective tissue.

Fig. 4.

Lupus erythematosus.

a. Hypertrophy and necrosis of epithelium.
b. Hypertrophy of papillæ somewhat resembling that of lupus vulgaris.

PLATE IV.—To Illustrate Article by Dr. A. Ravogli.

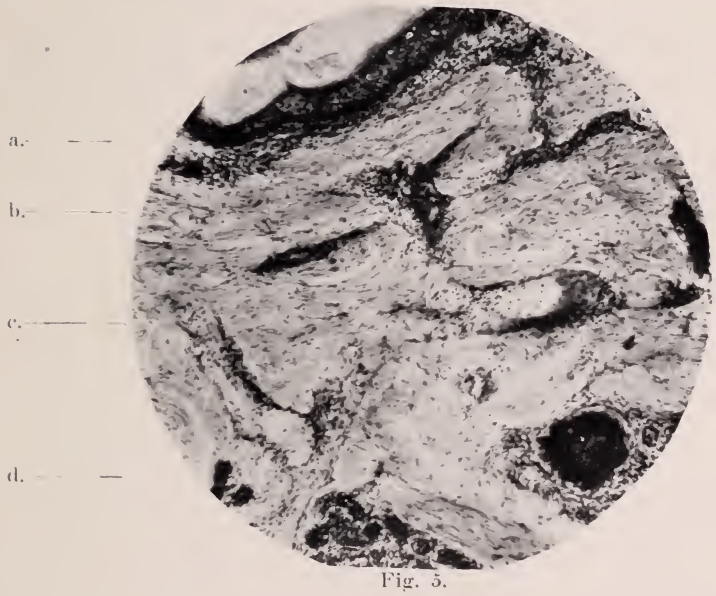

Fig. 5.

Lupus erythematosus.

a. Infiltration mostly limited to papillary layer.
b. Hypertrophy of connective tissue.
c. Layer of plasma cells.
d. Congested blood vessels.

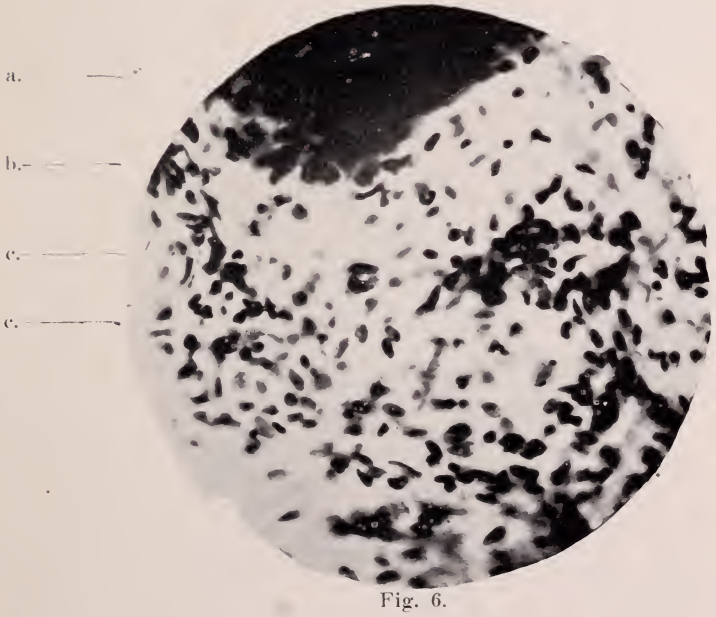

Fig. 6.

Lupus erythematosus.

a. Small mononuclear leucocytes.
b. Polynuclear leucocytes.
c. Epithelioid cells.

29. Lewandowsky, F. Experimentelle Studien über Hauttuberkulose. *Arch. f. Dermat. u. Syph.*, 1909, xcviii, p. 335.

30. Klingmüller. Beiträge zur Tuberkulose der Haut. *Arch. f. Dermat. u. Syph.*, 1904, lxix.

31. Zeiler. Neue Anschauungen über einige Beziehungen zwischen Tuberkulose und Erkrankungen der Haut (sog. Exantheme der Tuberkulose-Tuberkulide). *Ztschr. f. ärztl. Fortbild.*, 1908, No. 18, quoted by Lewandowsky.

32. Jadassohn. Die Tuberkulose der Haut. *Mracek's Handbuch*, iv.

DISCUSSION.

Dr. Knowles said he recently had had the opportunity of studying a case of lupus erythematosus in which tubercle bacilli were found in the stools—possibly as a coincidence. However, the finding was at least suggestive. He had recently seen another case of lupus erythematosus in a mulattress, which was unusual.

Dr. Fordyce said he did not think the von Pirquet test when positive was of much value in the diagnosis of skin lesions in the adult. A negative von Pirquet test, of course, was of much greater significance. In lupus erythematosus he had made the test in six or eight cases and it was negative in every instance excepting one. This result would seem to show that tuberculosis played a minor rôle in that affection.

Dr. Trimble said that the majority of cases of lupus erythematosus, especially the fixed type, were negative to the tuberculin tests. In a group of nine cases in which he had tried the Moro test, seven were negative and two positive. The speaker hardly thought that these cases should be classed with the tuberculides. The more he saw of lupus erythematosus, the less he thought it connected with tuberculosis. He had certainly seen many cases in which no connection with tuberculosis could be proven.

Dr. Hartzell thought that the injection of tuberculin was not followed by a local reaction. He could recall at least one case of lupus erythematosus in the literature where the patient had died suddenly, the death being due to some other cause and in which a most painstaking autopsy failed to reveal any tuberculous focus or any suspicion of it. All of us had doubtless seen a considerable number of cases of erythematous lupus in people who were otherwise in robust health, and who showed no evidence of tuberculosis.

Dr. Gilchrist said he did not regard the von Pirquet skin reaction of any value in adults—only in children. In regard to the other question that had been raised by the discussion, the speaker said he was not convinced that true lupus erythematosus had any connection with tuberculosis. If we found the tubercle bacilli in the lesions, we had a tuberculosis of the skin, but lupus erythematosus was not tuberculosis.

Dr. Shepherd said that, surgically, we not infrequently saw lupus erythematosus associated with enlarged glands or other manifestations of tuberculosis. He could recall at least twenty or thirty cases of this character, where well-marked tuberculous glands or other tuberculous manifestations occurred in patients with lupus erythematosus. In addition to these, we had border-line cases, where it was impossible to say whether we had to deal with a lupus erythematosus or a lupus vulgaris. In the adult, the skin was very much more

resistant than in children, which was the reason why these lesions were more commonly observed in the latter.

Dr. Ravogli said that he had found tubercle bacilli in only one out of many cases of lupus vulgaris. Not infrequently it was extremely difficult to demonstrate the organisms in tuberculous glands. For this reason the speaker would not change his opinion regarding lupus erythematosus any more than he would deny the tuberculous origin of lupus vulgaris and of tuberculous glands. Tubercle bacilli in the skin have very little vitality, just the opposite of what we see in severe cases of general tuberculosis. In the latter instance the organism is no longer able to supply antibodies and the giant cells are no longer formed, so that the germs are found in quantity. The failure to find tubercle bacilli in lupus erythematosus would never deter the speaker from considering this disease of tuberculous origin, when the tissues reacted to the tuberculin test.

THE VALUE OF LYMPHATIC GLAND EXAMINATION AS A FACTOR IN THE DIAGNOSIS OF SYPHILIS.

By D. Friedlander, M. D., San Francisco.

Lecturer on Dermatology, Cooper Medical College; Dermatologist to Mt. Zion Hospital; Dermatologist to the Pacific Orphan Asylum and Home for the Aged.

THE question of the diagnostic value of palpable glands in syphilis has been, for years, an open one, many authorities taking the stand that the presence of palpable lymphatic glands, wherever situated, was of no diagnostic significance whatsoever, while others have taken the opposite stand, some going so far as to consider a bilateral epitrochlear glandular enlargement as characteristic of syphilis.

We must, however, consider the enlargement of the glands at least in the earlier stages of the disease, as a part of the pathological process, indicating the constitutional character of the affection, and, as aptly stated by Ehrlich and McDonough ("606" in Theory and Practice) "the enlarged glands must be looked upon as a battle field, where some time is being spent in a fight between the spirochætæ and the gland cells." The question then is, whether or not the glandular element is of a sufficiently characteristic or persistent character to be a valuable element in the diagnosis of syphilis.

The recent advances in the study of syphilis, *i. e.*, the Wassermann reaction and the discovery of the spirochæta, enable us, almost without question, to definitely state whether or not a case of syphilis presents, and a gland examination carried out in a sufficient

number of definitely syphilitic cases would have a definite value in determining the diagnostic worth of the gland examination. The reverse of this must also be true, that is, if a similar number of definitely non-specific cases were examined, the gland examination, when compared to that of the specific cases, would show a definite comparison.

With this idea in view, the author has collected, at his clinic in the Cooper Medical College and the clinic of Dr. Max Joseph, in Berlin, 100 definitely syphilitic cases of varying duration, practically all of which presented specific lesions and all of which showed positive Wassermann reactions; and 100 definitely non-syphilitic cases presenting a negative Wassermann reaction, for the purpose of comparison. Obese patients were excluded because of the difficulty of palpating the glands and all doubtful Wassermann reactions were set aside and when an enlarged gland is referred to, it is one that is distinctly palpable.

The following tables show the results of the examinations, the percentage of enlargement of the various syphilitic glands being given in cases of one, two, three, five, ten and over ten years' duration and this is compared with the percentage of enlarged glands in the non-syphilitic series. Table No. 1 shows the percentages of unilateral enlargements, while Table No. 2 shows the relative percentages of bilateral enlargements.

TABLE NO. 1—UNILATERAL ENLARGED GLANDS.

	Specific glands.			Non-specific glands.
Anterior cervical.	1 year or under,	71½%	Average, 56½%.	Average, 43 %.
	1 to 2 years,	71½%		
	2 to 3 years,	50 %		
	3 to 5 years,	52½%		
	5 to 10 years,	66 %		
	10 years or over,	42 %		
Posterior cervical.	1 year or under,	92 %	Average, 84 %.	Average, 60 %.
	1 to 2 years,	78½%		
	2 to 3 years,	79 %		
	3 to 5 years,	83 %		
	5 to 10 years,	90 %		
	10 years or over,	80 %		

	Specific glands.		Non-Specific glands.
Preauricular.	1 year or under, 40 % 1 to 2 years, 44 % 2 to 3 years, 56 % 3 to 5 years, 30 % 5 to 10 years, 50 % 10 years or over, 31½%	Average, 37½%.	Average, 22½%.
Posterior auricular.	1 year or under, 73 % 1 to 2 years, 67½% 2 to 3 years, 69 % 3 to 5 years, 61½% 5 to 10 years, 72 % 10 years or over, 52 %	Average, 66½%.	Average, 52 %.
Occipital.	1 year or under, 93 % 1 to 2 years, 82 % 2 to 3 years, 80 % 3 to 5 years, 78 % 5 to 10 years, 75 % 10 years or over, 76 %	Average, 82 %.	Average, 52 %.
Submaxillary.	1 year or under, 94½% 1 to 2 years, 100 % 2 to 3 years, 90 % 3 to 5 years, 97 % 5 to 10 years, 75 % 10 years or over, 81 %	Average, 92 %.	Average, 82 %.
Submental.	1 year or under, 51½% 1 to 2 years, 53 % 2 to 3 years, 50 % 3 to 5 years, 55½% 5 to 10 years, 50 % 10 years or over, 63 %	Average, 53 %.	Average, 14 %.
Epitrochlear.	1 year or under, 93½% 1 to 2 years, 93 % 2 to 3 years, 82½% 3 to 5 years, 84 % 5 to 10 years, 75 % 10 years or over, 76 %	Average, 86 %.	Average, 42½%.
Inguinal.	1 year or under, 100 % 1 to 2 years, 100 % 2 to 3 years, 87½% 3 to 5 years, 100 % 5 to 10 years, 90 % 10 years or over, 97 %	Average, 98 %.	Average, 97½%

	Specific glands.		Non-specific glands.
Axillary.	1 year or under, 88½% 1 to 2 years, 93 % 2 to 3 years, 75 % 3 to 5 years, 89 % 5 to 10 years, 82 % 10 years or over, 76 %	Average, 85 %.	Average, 67 %.
		Total, 74%.	Total, 53%.

TABLE NO. 2—BILATERAL ENLARGED GLANDS.

	Specific glands.		Non-specific glands.
Anterior cervical.	1 year or under, 60 % 1 to 2 years, 71½% 2 to 3 years, 37½% 3 to 5 years, 44½% 5 to 10 years, 66 % 10 years or over, 21 %	Average, 50%.	Average, 30 %.
Posterior cervical.	1 year or under, 88 % 1 to 2 years, 78½% 2 to 3 years, 62½% 3 to 5 years, 78 % 5 to 10 years, 90 % 10 years or over, 73 %	Average, 80%.	Average, 47 %.
Preauricular.	1 year or under, 23 % 1 to 2 years, 28½% 2 to 3 years, 25 % 3 to 5 years, 17 % 5 to 10 years, 23 % 10 years or over, 21 %	Average, 21%.	Average, 7½%.
Posterior auricular.	1 year or under, 55 % 1 to 2 years, 64 % 2 to 3 years, 50 % 3 to 5 years, 57½% 5 to 10 years 66 % 10 years or over, 36½%	Average, 57%.	Average, 42½%.
Occipital.	1 year or under, 88 % 1 to 2 years, 78½% 2 to 3 years, 62½% 3 to 5 years, 72 % 5 to 10 years, 66 % 10 years or over, 69½%	Average, 77%.	Average, 45 %.

	Specific glands.		Non-specific glands.
Submaxillary.	1 year or under, 91½% 1 to 2 years, 100 % 2 to 3 years, 75 % 3 to 5 years, 93 % 5 to 10 years, 66 % 10 years or over, 73½%	Average, 87%.	Average, 70 %.
Epitrochlear.	1 year or under, 85½% 1 to 2 years, 78½% 2 to 3 years, 75 % 3 to 5 years, 76 % 5 to 10 years, 66 % 10 years or over, 63 %	Average, 77%.	Average, 27½%.
Inguinal.	1 year or under, 100 % 1 to 2 years, 100 % 2 to 3 years, 87½% 3 to 5 years, 100 % 5 to 10 years, 82 % 10 years or over, 89 %	Average, 97%.	Average, 85 %.
Axillary.	1 year or under, 85½% 1 to 2 years, 93 % 2 to 3 years, 50 % 3 to 5 years, 89 % 5 to 10 years, 66 % 10 years or over, 58 %	Average, 78%.	Average, 65 %.
		Total, 69%.	Total, 36 %.

These tables, then, show that we have 74 per cent. of unilateral gland enlargements in syphilitic cases against 53 per cent. in non-syphilitic cases, a difference of 21 per cent., but the difference is decidedly more apparent in the bilateral examinations, where we find the syphilitic cases showing 69 3-9 per cent. against the 36 5-9 per cent. of the non-syphilitic examinations, a difference very little short of 100 per cent.

The second point that is evident, with a few exceptions, is, that the earlier the stage of the syphilis, the more pronounced is the glandular enlargement, and in the early years of the disease, the ratio, to the non-specific glands, is a far different one from that of the collected percentages, and the longer the duration of the disease the nearer alike the two become.

The third point, shown by these tables, is that certain glands, or groups of glands, in syphilitic patients, show singly or bilaterally,

a higher ratio to the non-syphilitic glands than others, and this is more pronounced in Table No. 2, covering the bilateral enlargements.

The glands showing, unilaterally, the most pronounced difference are, in order of importance, as follows:

Gland.	Syphilitic.	Non-syphilitic.
1. Epitrochlear.	86%	42½%
2. Occipital.	82%	52 %
3. Posterior cervical.	84%	60 %

In the bilateral examinations these glands continue to show the larger percentage of difference, in practically the same order, but more pronounced than in the unilateral tables

Gland.	Syphilitic.	Non-syphilitic.
1. Epitrochlear.	77%	27½%
2. Occipital.	77%	45 %
3. Posterior cervical.	80%	47 %

Although other glands, notably the inguinal, axillary and submaxillary, show a higher percentage of positive results, the difference between the syphilitic and the non-syphilitic is far from being so pronounced.

From the above, it is apparent that the following may be deduced:

1. There is a universal glandular enlargement in syphilis.

2. That the enlargement of certain syphilitic glands is more characteristic than others and they rank in the following order: (A) epitrochlear (B) occipital (C) posterior cervical.

3. The proportion of enlarged glands decreases in direct ratio with the age of the infection.

4. The bilateral glandular enlargements are of more significance than the unilateral.

In conclusion it might be said that, while the examination of the glands cannot be depended upon, alone, for a diagnosis of syphilis, the enlargement of certain glands, particularly when bilateral, is of indubitable significance, and the value of the gland examination is far more pronounced in the early stages of the disease than later.

146 Grant Avenue.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, September 26, 1911.

HERMAN G. KLOTZ, M. D., *President.*

Pityriasis Rubra Pilaris. Presented by DR. HOWARD FOX.

The patient, Ida K., was a girl five years of age; she was born in the United States of German parents. The family history was negative. None of her relatives had ever suffered from a similar skin disease, according to the mother's statement. The eruption had first appeared when she was eleven months old and had existed continuously up to the present time. It was first noticed on the soles and later on the palms, face and legs. When seen at the Vanderbilt clinic two months ago, she presented a typical eruption of pityriasis rubra pilaris. Since that time the eruption had improved greatly under an ointment of salicylic acid and was not nearly so characteristic as before. She had formally presented typical horny acuminate papules on the forearms which had now entirely disappeared. The typical papules were, however, still to be seen upon the hypogastric region. The hands and soles and portions of the dorsal surfaces of the feet presented a diffuse, reddish, infiltrated, scaly eruption, with a round patch of normal skin in the centre of the diseased area upon the back of one hand. About the knees were disappearing squamous patches that formerly resembled psoriasis. Along the borders of both popliteal spaces were disappearing patches arranged in the characteristic forms of bands. There was a small, scaly patch over the left buttock and the face was still slightly reddened and scaly. The scalp showed a fine, silvery-white desquamation. The nails were hypertrophic, discolored, lustreless, pitted and transversely ridged. The general health appeared to be good. During the past two months she had been given arsenic internally in addition to the local treatment with ointments.

DR. G. H. FOX said that he had seen the case some time before and at that time the diagnosis of lichen rubra was readily made.

DR. BULKLEY thought that the case was one of seborrhœic dermatitis. There was certainly an involuting seborrhœa of the face. The eruption on the hands and feet had improved under resorcin, which he did not think would be the case in lichen ruber.

DR. HOWARD FOX said that it was hardly fair to ask the members to accept at once a diagnosis of pityriasis rubra pilaris, as the lesions had changed greatly during the last few months under treatment. She still showed, however, acuminate, horny papules upon the lower portion of the abdomen that seemed to be characteristic.

Seborrhœic Dermatitis, Very Extensive. Presented by Dr. Bulkley.

The patient was a woman, twenty-four years of age, with hands, arms and feet largely covered with an evenly reddened eruption, which was moderately scaly. There were, also, large areas affected on the body, front and back, those on the chest being very typical of seborrhœic dermatitis. About the face, also, and on the scalp, the disease was very typical. The peculiar feature was that the palms and soles were intensely affected, being red and shiny; the nails were not affected. The diagnosis was difficult; the eruption was not psoriasis, nor pityriasis rubra, nor an ordinary eczema. Some portions had responded well to resorcin, but in some places the condition had become an exfoliative dermatitis, as one would sometimes see in psoriasis.

Dr. Sherwell said that the chief peculiarity, in his opinion, was the roughened condition of the skin. In a case he had seen, a thinning of the epidermis had developed.

Dr. Trimble said that he had seen the case before and had made a provisional diagnosis of psoriasis. One feature of the case had interested him very much, which was the cuff or glove-like lesions on the hands and feet. When he first saw the patient the disease had the localization of seborrhœic eczema, but the history seemed to favor the diagnosis of psoriasis.

Dr. Bulkley asked whether parapsoriasis would not be a better designation. It often simulated psoriasis closely.

Dr. Howard Fox thought the eruption would be called seborrhœic eczema by the majority of dermatologists. He did not consider it parapsoriasis and certainly did not see any acuminate papules that would suggest pityriasis rubra pilaris.

Urticaria Pigmentosa. Presented by Dr. Howard Fox.

The patient, Anna R., was a girl three years of age. She was the only child of apparently healthy parents. No similar disease had ever been noticed in any of her relatives. The eruption appeared when the patient was three months old, as red spots which later became more or less yellowish. According to the mother's statement, the eruption appeared rather suddenly and attained its maximum extent in about a week. Since that time it had not changed except in color. The patient was a fine looking, apparantly healthy little girl, who presented a general eruption upon the neck, trunk and extremities. This consisted of numerous, discrete macules of various shades of yellow. Some of those upon the trunk and neck resembled somewhat the color of xanthoma. The lesions were most profuse upon the trunk and upon the neck, where they extended to the border of the scalp and to a line between the chin and angle of the jaw. The lesions were fewer in number upon the arms and legs, gradually lessening toward the hands and feet. The

face, palms and soles were free. The individual lesions showed the characteristic appearance of wheals when rubbed. A considerable number of punctate excoriations were scattered about the body.

The diagnosis was generally accepted.

Alopecia Areata. Presented by Dr. Kingsbury.

The patient was a well-developed healthy girl, six years of age. The case had been shown to the Society by the speaker two and a half years ago and at that time the child was completely bald. The eyelashes and eyebrows began to appear about a year ago and during the past few months, patches of fine white hair had appeared on the scalp. No local nor constitutional treatment had been administered for over two years.

Dr. Sherwell suggested giving syrup of iodide of iron with arsenic. That course of treatment seemed rational to him, and he thought it would improve the chances and the rapidity of restoration to the normal.

Dr. Bulkley said that the eyebrows and lashes seemed to grow out first in these cases; he had had a number of cases of complete alopecia where this occurred. As there had been practically no local treatment given in these localities, it made a good demonstration of the value of internal therapeutics. He regarded these cases as a failure of the roots of the hair to obtain proper nourishment from an impoverished blood current or deranged innervation.

Lepra Tuberculosa. Presented by Dr. Bulkley.

The patient was a light-colored negro girl, thirteen years of age, born in Barbadoes, and had been in this country for six years. She had always been well, and never had had any eruption until six months ago. There were then some general symptoms of malaise, nausea and vomiting, and shortly thereafter small papules appeared over most of the face, beginning on the chin. Very soon some were seen on the arms and legs and during the last three months the disease had developed more rapidly, until now the lesions were pretty closely set. The peculiarity of the case was the very small size of the tubercles, many of them only the size of a very small pea. Dr. McLaughlin, who had sent the case in consulation had, on request, excised two of the tubercles, and large numbers of acid-fast bacilli were found, mostly intercellular. A section was exhibited showing an abundance of lepra bacilli.

Dr. Bronson called attention to the fact that, as alleged by physicians at the leproseries in the West Indies, especially at Trinidad, the form of leprosy indigenous to that part of the world almost always began as the anæsthetic variety; while the tubercular type developed secondarily. That was certainly not the case in Dr. Bulkley's patient.

Dr. Howard Fox thought that an interesting feature of the case was the small size of the tubercles on the face, as opposed to the large, flat lesions that were usually seen in this locality. The case resembled a negress recently shown by Dr. Winfield at the New York Academy of Medicine.

Dr. Purdy said that in this case the nodules at first were very small, but gradually increased in size.

Lepra Tuberculosa. Presented by Dr. G. H. Fox.

The patient, who had been shown before, demonstrated the beneficial effects of chaulmoogra oil. He had been taking a mixture of chaulmoogra oil, compound tincture of cardamon and glycerin. Some patients could not take four or five drops of the oil without nausea, while others could take as much as 200 drops daily with advantage. The members who had seen the patient before could note the marked improvement of the lesions. The speaker said that salvarsan had been tried in cases of leprosy without beneficial result. This patient had had one injection with an unexpected result. The temperature dropped to 95° F. and he was in a very bad condition for two or three days. When he recovered, the ulcerating lesions on the forehead began to grow smaller and finally healed, and in a short time he seemed so much better that another injection was given—this time a smaller dose, two decigrammes. The effect was nil. The first injection was given by the intramuscular, the second by the intravenous method.

Dr. Trimble wished to know if Dr. Fox attributed the great improvement in this case to the salvarsan or to the chaulmoogra oil?

Dr. Fox replied that the patient had been taking chaulmoogra oil, which had undoubtedly produced a good effect. Special emulsions were prepared by good chemists, so that the patient could take the oil. At first, milk of magnesia, chaulmoogra oil and glycerin were given, but the magnesia precipitated and was left out. Cardamom and glycerin made a very good mixture, and the taste of the chaulmoogra oil was obscured. It was very strange that some patients could take only a few drops of chaulmoogra oil without nausea, while others could take a large amount. This man had been growing worse, in spite of the salvarsan so that the effect of the chaulmoogra oil seemed evident. The speaker said that years ago he had had a number of cases which came to the city for treatment, and most of them had improved. He attributed much of the benefit to the change of climate. Where the improvement had ceased he had seen many cases benefited by chaulmoogra oil, and was certain that that was the best internal remedy. In response to an inquiry from Dr. Sherwell, as to whether he had ever included nux vomica in the mixture, Dr. Fox replied that he had given it separately, but had not noticed any particular effect from it.

Dr. Bulkley reported upon the man with leprosy, twenty-four years of age, whom he had shown before the Society a year ago and who had a perforating ulcer of the right toe. The patient then had a few tubercles on the backs of some of the fingers and a slide made from a section of one of them a year ago

was now shown under the microscope exhibiting numerous lepra bacilli. The patient was now back at work, the toe lesion had healed entirely and the tubercles had disappeared from his hands. He had gained fifteen pounds. He had taken large doses of chaulmoogra oil, forty drops three times a day after meals; he had also, at the same time, taken forty drops of tincture of nux vomica three times a day before meals. He seemed to have entirely recovered from his tubercular lesions, but still had considerable anæsthesia in all the extremities.

Papulo-Necrotic Tuberculide in A Negress. Presented by Dr. Howard Fox.

The patient was thirty-three years old, born in the United States. The family history was negative. She stated that when she was thirteen years old she had suffered from a discharging sore in the submaxillary region, which lasted a month. The eruption was first noticed on the arms fourteen years ago, since which time crops of lesions had appeared, especially in winter. According to the patient's statement, the lesions appeared as little "pimples," which would contain "matter" after they had existed about a week. They then formed scabs and healed, as a rule, in three weeks and were followed by scars. Examination showed a roughly symmetrical eruption on the elbows and extensor surfaces of the forearms and also upon the tips and lateral aspects of the fingers. The lesions were pinhead to split-pea-sized, firm nodules, a few of them pustular. Interspersed among these lesions were numerous depigmented and slightly depressed, punctate scars, showing no especial grouping. On the legs and ankles were numerous nail-sized, pigmented macules, also showing no particular grouping.*

Dermatitis Facticia. Presented by Dr. Kingsbury.

The patient was a girl, eighteen years of age. She seemed to be in fairly good general health, but she was considerably below the average in mental and physical development. She had a small goitre with marked protrusion of the eyes and the characteristic, rapid pulse. For several months peculiar, excoriated lesions had, from time to time, appeared on her trunk and extremities. When before the Society, the girl had on her back two round areas each of which was almost two inches in diameter. They were obviously of recent origin and had probably been produced by vigorous rubbing. On both legs and the right buttock, there were several deep, linear excoriations. These were nearly half an inch wide and over three inches long. Similar, but more superficial lesions, were found on the left forearm.

Dr. Trimble spoke of a case which was shown at the Massachusetts General Hospital this summer, presented as dermatitis factitia. The lesions were the

*A tuberculin test, made a few days after the presentation of the patient, was strongly positive.

worst that he had even seen in such a patient. He agreed with Dr. Kingsbury's diagnosis in the present case.

Dr. Bulkley said that he had seen many such cases and spoke of one case in particular, a very intelligent girl in a good social circle, who produced the condition by rubbing the surface with sandpaper. He watched her for a month and finally accused her of producing the lesions, when the eruption ceased immediately. He had seen patients suffering with large blebs, produced by carbolic acid. In a rather recent instance, the patient was an intelligent and wealthy girl, whom he watched for several months, and finally narrowed the eruption down to carbolic acid as the cause; once or twice, clear evidence was found where the acid ran down beyond the rather square lesions which were produced a day after she had predicted the appearance of a blister.

Dr. Bronson said that it seemed probable that this was a case of dermatitis factitia, but one could not be absolutely certain. Artificial eruptions generally implied a certain craftiness on the part of the patient that would hardly be presupposed in the low grade of mental development exhibited in Dr. Kingsbury's case. If the eruption in this instance was artifically produced it was probably due to rubbing or scratching rather than by carbolic acid. Most of the lesions were similar in shape and did not have the outline that most cases of dermatitis factitia showed. The chances were, perhaps, that the lesions were produced by the patient herself, but it was not impossible that in certain neurotic conditions such lesions might occur spontaneously.

Dr. G. H. Fox agreed that in many of these neurotic, hysterical girls such eruptions were artifically produced for the sake of the sympathy and interest excited; but in other cases, especially where blebs were formed, he thought the patient might have the power of bringing them out by an effort of the will, without external provocation, as in the celebrated case of Louise Latour. Many of these cases were strictly neurotic diseases and not artifically produced; and there seemed to be a tendency to attribute too many of them to the effect of carbolic or other acids and to regard the eruption as an artificial dermatitis, when possibly the effect of the nervous system had not been taken into account.

Dr. Howard Fox agreed with the diagnosis of artificial dermatitis and thought from the appearance of the lesions that they had probably been produced by some mechanical means rather than by an acid.

Scrofuloderma. Presented by Dr. Howard Fox.

The patient, Isadore K., was a boy, seventeen years of age, born in Austria. His family history was negative. He stated that since his infancy he suffered from time to time from "sores" upon different parts of his body. He presented extensive scarring upon the left side of the trunk. A large amount of scarring was present upon the right forearm. There was, also, scars upon the anterior surface of the neck, the upper part of the chest, the left arm and the thigh. Some of these scars were soft, pliable and rather superficial. Others were deep, fibrous, keloidal in character, strongly suggestive of a burn. Some of them were of the size of various coins, while others formed large patches. None of them presented any particular grouping. Scattered about among the cicatricial areas were a few bluish, pea to bean-sized, firm nodules. There was no

ulceration in any of the lesions. Upon the back of the right hand, extending upon the back of the thumb, middle and ring fingers, were bluish, infiltrated, warty lesions, apparently a tuberculosis verrucosa cutis. The right index finger was reduced to a short stub to which was attached a small dystrophic nail. The left ring finger was also shortened, owing to the absence of the first and a portion of the second phalanx. A normal nail was attached to the apparantly intact distal phalanx. The patient seemed to be rather delicate in health and was decidedly dull mentally.*

Chancre of the Cheek. Presented by Dr. Kingsbury.

The patient was a young woman about twenty years of age. She was employed as a singer in music halls and cafés. An indurated tumor had been present on her left cheek for over seven weeks and when she was before the Society it was nearly as large as a walnut. There were patches on her tonsils and a beginning general maculo-papular eruption. A strong positive Wassermann reaction was obtained. No satisfactory history was elicited suggesting the possible mode of inoculation. Before the girl came under medical observation a relative who was a barber, had treated the "boil" by giving her vibratory massage. Barbers seldom cleaned the rubber bulb of a vibratory apparatus and it was to be hoped that the retained coating of massage cream may have served as a protective to the next customer.

Xanthoma Multiplex. Presented by Dr. Kingsbury.

The patient was a man, twenty-eight years of age. He was of sedentary habits and a clerk by occupation. He was apparently in good general health, but was rather short and somewhat over weight. His urine had been frequently examined and on several occasions a very small amount of glucose had been found. Yellowish patches were first noticed on the elbows about one year ago and a few months later, lesions appeared on the buttocks and thighs. Of more particular interest was the very extensive, yellowish discoloration in the palmar and plantar striæ. This was said to have been present for about half a year.

Dr. G. H. Fox said that years ago he had suggested the term xanthoma striatum, to distinguish these unusual and peculiar lesions of the palms from the flat and rounded and the tuberose types of the disease.

Eczema Treated by a Rice Diet. Presented by Dr. Bulkley.

The patient was a woman, twenty-four years of age, with a very extensive eczema, and a large amount of deforming rheumatism of both

*A tuberculin test, made after the presentation of the patient, was moderately positive.

hands. The interesting feature of the case was the benefit to her general health produced by an absolute vegetarian diet of rice. For over two months she had put nothing into her stomach but rice, bread and butter and water. Upon that diet she had gained flesh, the fingers had limbered up, and the eruption had very largely disappeared. She was better than she had been for a long time.

Dr. G. H. Fox said that he agreed with Dr. Bulkley that a restricted diet worked wonders in many cases of skin diseases, but he himself did not lay stress on any special food so much as upon an entire change of diet. He spoke of a case of acute general lichen planus which recovered in a week under a bread and milk diet, and in a case of psoriasis in which the lesions had been obstinate for a long time and disappeared quickly on an exclusive diet of fresh fruit. It seemed to be the fasting or restriction of diet to one article of food which produced the beneficial results. Dr. Fox said that he was strongly in favor of dietetic experiments in all inflammatory skin diseases. Mistakes might be made, but he saw more benefit result from modification of diet than from the use of local remedies.

Dr. Bronson asked if it were not from the abstention from proteids that produced the benefit?

Dr. Sherwell said that he knew of no diet that would produce as much good in chronic inflammatory skin diseases, such as lichen planus or psoriasis, as a severe attack of sea sickness combined with a long sea voyage.

Generalized Paronychia. Presented by Dr. Bulkley.

The patient, aged thirty-five, had lost all her nails but two, the process having continued for five years; the ends of the fingers were swollen and red, and the nail beds thinly covered with imperfect nail tissue. The peculiarity was that she had superficial pustular lesions about the ends of the fingers. An attempt had been made to get material for inoculation, but the pus was sterile. Gradually, under treatment with strong bichloride, the pustules had largely ceased, but most of the nails were still missing, rendering her quite helpless.

Dr. Sherwell had two such cases now under his care. They were rapidly improving on the syrup of iodide of iron, potassium iodide and arsenic, internally, with local applications of mercurial and other stimulating ointments such as salicylic acid, etc.

Dr. Bronson inquired with regard to the opsonic index in this case. He was reminded of a case under his care some years ago of a pustular disease affecting the nails more than any other part, though lesions occurred in other parts of the body also. The patient was sent to Dr. Potter, and the opsonic index was found to be low. Autogenous toxines were used without any effect. The disease, however, would be temporarily relieved by local antiseptic treatment with argyrol or other antiseptics, but new lesions would occur elsewhere.

Dr. Bulkley said that a number of staphylococcic vaccine injections had been given during more than a month, but with no effect on the nails or the

collections of pus. The actual lesions themselves were found to be sterile in every instance. No opsonic index had been taken.

Late Syphilis, Resistant to Treatment. Presented by Dr. Bulkley.

Anna B., aged twelve years, began to have ulcerative lesions on the right leg and thigh and forehead three years ago; no history of infection could be obtained and the marks of hereditary syphilis were lacking; the teeth were perfect. Two years ago she was in the Skin and Cancer Hospital for ten weeks and the lesions all healed under "mixed treatment," but the ulcerations returned about a year ago. She was again admitted on July 22, 1911, with three or four large ulcerating gummata about the right knee and thigh, which had persisted in spite of energetic and carefully directed treatment, internal and external. It was now proposed to give her salvarsan.

Dr. Trimble agreed with the diagnosis. He said that the case had been first presented by Dr. Whitehouse at one of the previous meetings and at that time there was some discussion as to whether the condition might not be tuberculous. He was under the impression that the Wassermann test had been made and was positive.

Case for Diagnosis. Presented by Dr. Bulkley.

Anna D., aged sixteen years, had been in the Skin and Cancer Hospital for over two years with a peculiar eruption confined always to the arms and face, which had resisted vigorous treatment of all kinds. While it would in a measure yield, it never disappeared entirely and often recurred with great severity from no recognizable cause. The lesions had always been papular, often very thickly set on the cheeks and scattered over the neck and were fairly thick on the arms; many were of large size and hard. There was always great itching, so that sometimes the lesions were torn with scratching, even when bound up. The diagnosis of dermatitis herpetiformis had been considered, but there had never been marked grouping of the lesions. The case had been repeatedly shown to this and other societies, but no satisfactory diagnosis or treatment had ever been suggested. It had been regarded as a chronic papular eczema. The disease had lasted at least five years before admission to the hospital.

Dr. G. H. Fox thought that it was a case of dermatitis herpetiformis.

Dr. Trimble said that when he saw the case a year ago he thought that it was one of dermatitis herpetiformis. The lesions looked very much like that disease and he had seen the same condition on the face in many cases of dermatitis herpetiformis. There had been some grouping of the lesions on the back.

Dr. Jackson thought it was dermatitis herpetiformis.

Dr. Bulkley said that the patient had never had a single vesicle; the lesions had been papular from the first. She had been treated for dermatitis herpetiformis for weeks at a time, but had made more improvement under nux vomica than anything else. He had never seen quite so obstinate a case. He was inclined to agree with the diagnosis of dermatitis herpetiformis.

Case for Diagnosis. Presented by Dr. Bulkley.

Ethel L., aged twelve years, had now been under close observation for five years and had been repeatedly presented at societies, but with no definite diagnosis determined. Since early childhood she had had the curious eruption, which consisted of distinct and sharply defined areas of redness over the body and limbs, which manifested the greatest variety in shape and size at different times. The whole skin was dry and almost ichthyotic in places; indeed, at the front of both axillæ there was such a darkened, horny condition that the case was first entered as acanthosis nigricans. But the striking feature had been the recurrence of irregular areas of sharply defined violet-red skin, of the most curious shapes. Under various treatments these would largely disappear, but in a few days the area which had cleared would be again the site of the red patches, which would disappear momentarily on pressure. At one time it was thought that the trouble was controlled by enormous doses of tincture of nux vomica, which was steadily increased until she took 45 drops three times daily. Then this seemed to lose effect, and latterly she had been taking adrenalin, which had been gradually increased, until she had taken 60 drops three times daily without any ill effect and with the result of diminishing greatly the frequency and intensity of the lesions.

Dr. Howard Fox said that at the September meeting, held a year ago, he had made the diagnosis of congenital ichthyosiform erythroderma and had not changed his opinion of the case. Acanthosis nigricans could be ruled out, as much of the eruption could be removed by soap. Against the diagnosis of pityriasis rubra pilaris was the fact that there had never been any horny acuminate papules. It did not seem to be an ordinary ichthyosis as there was entirely too much redness in the lesions and the location was not that of ichthyosis.

Dr. Trimble said that it had occurred to him that possibly the redness and the keratosis might be two separate conditions. The redness seemed to come and go and was not associated with the keratotic lesions. It might have no connection with the keratotic skin and might be a persistently recurring erythema independent of the other condition.

Dr. Bulkley said that all sorts of diagnoses had been made when the case was presented at the International Dermatological Congress some years ago. One gentleman said that it was lichen ruber, but it was very remarkable that it should appear and disappear so mysteriously. He would try to present the patient at a subsequent meeting when she might have a greater outbreak of the curious lesions.

Favus. Presented by Dr. Bulkley.

Teddy, aged twelve, a Russian boy, had had favus since earliest childhood and the entire scalp was affected. Under persistent treatment,

much of the disease had been removed and the hair was growing well, but with very numerous, small, bald areas. The case was exhibited as showing the rebelliousness of the disease, even to careful hospital treatment; for while often the scalp would appear well, with very little if any redness about the roots of the hairs, a careful microscopic examination, from time to time, showed the fungus in certain hairs.

NEW YORK ACADEMY OF MEDICINE,

SECTION ON DERMATOLOGY.

Stated Meeting held February 7, 1911.

JEROME KINGSBURY, M. D., *Chairman.*

Cases Treated with Thorium Paste. Presented by DR. BULKLEY.

CASE 1. Mrs. R. M., aged forty-two, with epithelioma nearly two inches square over the right shoulder, which had followed two surgical operations. The thorium treatment was begun Nov. 2, 1910, with a 20 per cent. solution on the hard edges and compressess of a 1 per cent. solution of the mixture in water, applied every night. After four applications, the last on November 28th, the lesion had entirely healed, leaving the soft, supple condition now seen, with no trace of the former hard edges.

CASE 2. M. D., sixty-six years of age. Epithelioma on region of right temple; three years' duration; size of a hazel-nut. He had received X-ray treatment for months with no effect. On Sept. 14, 1910, thorium treatment was begun. After the second application, the crust was torn off accidentally. The lesion was washed with a 10 per cent. solution of thorium. On November 30th, the lesion was healed, with only a little inflammatory reaction. She was directed to rub it gently with lanoline, and on December 9th, the lesion had entirely disappeared.

CASE 3. M. M. O'C., aged one year. She had a nævus araneus, of two months' duration, under the left eye. On December 16th, thorium paste was applied. On December 30th, the lesion was entirely gone and no scar was visible.

CASE 4. W. B., aged fifteen years, a negro boy. He had a lupus erythematosus of one year's duration. There were five coin-shaped lesions, scattered over the cheeks and ears, which were very hard and often bled. On Nov. 21, 1910, pure thorium paste was applied, and a 10 per cent. solution of the drug and lanoline was given him to rub the lesion with. On December 5th, the lesions were paler, the ears were much improved and soft. The same treatment was repeated on December 19th, after which more improvement was noted and the same treatment was continued. On December 30th, one spot under the ear was entirely healed; the other lesions were improving; the same treatment was continued. On Jan. 11, 1911, all the lesions showed great improvement, but some hard points still remained. The same treatment was continued with the addition of an application of a 50 per cent. aqueous solution on the hard points. On February 5th, three spots that were on the cheeks were entirely cured. The patient was still under treatment.

CASE 5. Mr. J. L., sixty-one years old. Superficial epithelioma of four months' duration on the left side of the nose, about one-half inch in diameter; edges hard and elevated. Thorium paste was applied on Oct. 15, 1910. On October 21st, a second application of thorium paste was made. The crust

left after the first application fell off, leaving no inflammation. On November 8th, a third application of thorium paste was made. On December 14th, all the lesions had healed; there was no trace of the epithelioma and there was no scar.

Case 6. Mrs. Dell, aged fifty-one years. She had had lupus vulgaris since she was four years old on the left cheek and ear. She had received X-ray treatment for some months. The first application of thorium paste was made on Oct. 18, 1910. There were also other applications of the paste on November 3rd and 27th, and December 3rd and 21st. On December 21st, the lesions were greatly improved; the lupus tissue had apparently disappeared, leaving only a slight inflammation. On January 8th, a weak paste was applied. On February 4th, the same application as on January 8th, was made.

Dr. Pollitzer said that thorium paste gave promise of becoming a very useful remedy. The cases shown were evidences of its power, but they were still under treatment and the crux of the whole question was the permanence of the cure.

Dr. Clark said that he had watched these cases almost from the start, and that the effect of the paste was very evident. Very superficial epitheliomata were apparently cured by two or three applications. Wide-spread lupus vulgaris was very much benefited by the paste and with less irritation than after the X-ray. Whether the results were or were not permanent could not yet be known. He would never use it on deep seated epithelioma.

Dr. MacKee said that his attention to the therapeutic possibility of thorium paste had first been attracted by Dr. Bulkley at a meeting of the New York Dermatological Society a few months ago. The speaker said that he was very much interested in seeing a practical demonstration of the efficacy of the method in cases of lupus erythematosus, lupus vulgaris, epithelioma, and nævus. There was no doubt but that the lesions in the cases presented had been markedly benefited and judging from the photographs of cases that had been treated in Germany, it did seem that the substance was capable of effecting at least a temporary cure. He did not, however, consider that any of the cases presented by Dr. Bulkley could be called cured. He hoped that Dr. Bulkley would again present the cases in order to demonstrate the complete involution of the lesions. If successful, the treatment would have the advantages of cheapness and ease of application. The radio-activity of thorium was so slight that it was hardly conceivable that it was this factor that was of primary importance. He suggested that there were other ingredients which were more beneficial than the thorium.

Dr. Semerak said that the thorium paste treatment had been applied to cases in the hôpital St. Louis in Paris, and other dermatological clinics abroad, since 1905. Hundreds of cases of lupus vulgaris, lupus erythematosus, epithelioma, nævus pigmentosus, etc., had been treated with this paste, and they all had shown the most satisfactory results. The majority of these affections were chronic. Many of them had been treated previously for years with caustics, X-rays, the Finsen light, and some had undergone a surgical operation. One of these patients had received over 1400 séances of Finsen light exposures, without hardly any improvement whatever. None of the patients had ever suffered physically in general health from thorium paste treatment. Excellent results had been obtained in a comparatively short time. After a period of four years there had been no recurrence whatever, in patients discharged as cured. A doubt has been expressed as to whether the radio-activity of the thorium contained in this paste was sufficient to produce any effect. The speaker said that on several occasions, at the beginning of the treatment, inflammatory reactions resulted from the application of the paste with a heavy percentage of thorium. These same reactions had been observed since, on certain cases treated repeatedly by

radium, and he had arrived at the conclusion that its radio-activity was too strong for certain conditions. Two years ago Dr. Semerak saw an epithelioma treated by radium. Each application had a very painful inflammatory reaction. It produced a deep ulceration and the affection spread rapidly. Thorium paste was applied greatly diluted; after a few applications of the paste the pain was relieved and the ulceration disappeared and the lesion was localized to a small surface. He advised the patient to have the lesion removed surgically, which he did, and he had had no trouble with it since. At this same time the Radium Institution in Paris sent a patient with a melanotic sarcoma around the left eye to the speaker. This patient had been treated for a long time at the hôpital St. Louis in Paris, and at last radium treatment was given him. When he consulted the speaker the doctor in charge said that there was no hope for the patient and it was only for the sake of experiment that he was sent for the thorium treatment. In five months the patient was entirely cured and even his eye was not in the least affected. There was no doubt in the speaker's mind that thorium paste had sufficient therapeutic qualities, which the operator could control easily, for each individual case, and also at every application.

Dr. Bulkley said that he was convinced, by the cases treated at the hôpital St. Louis in Paris, and by what he had seen here, that this was a very valuable addition to our therapeutic methods. He was convinced that the results observed were due to the thorium, as the other ingredients were practically inert.

Bursitis Gummosa. Presented by Dr. Pollitzer.

The patient, a middle-aged woman, said the lesions had been present for twenty years. On the left leg the prepatellar bursa was enlarged to the size of an orange and the skin over it broken down in two ulcerated lesions, which discharged a seropurulent fluid. The effect of a similar lesion on the right knee was manifested as a large scar. The bursa at the olecranon of the left elbow was enlarged to the size of a hen's egg; the skin over it was normal. Neither of the lesions gave any pain.

Dr. Gilmour said that he had seen one case like this but smaller, in which the diagnosis was substantiated by reason of the adjacent gummata. There was no fluid in the bursa.

Dr. Pollitzer said that he had never seen a case like this before, although a serious bursitis in the early stages of the disease was fairly common. The surgeons, it seemed, were more familiar with the condition than the syphilographers, though it certainly was rare.

Cases Treated with "606." Presented by Dr. Trimble.

Dr. Trimble exhibited four luetic patients who had been treated with the Ehrlich-Hata "606". These patients were selected from a series, under the care of Dr. Howard Fox and the speaker. They represented four different methods of administration of the drug—the intravenous, intramuscular, neutral suspension and oily suspension. Two of the cases showed the large papular syphilide, one, a papulo-squamous lesion, and one, a malignant case, with large pustulo-crustaceous lesions on the nose, forearms and legs. The lesions were disappearing rather rapidly from the intravenous injection, and somewhat slower from the other methods. In two of the cases a relapse had occurred and the second

injection had been given in one patient and the speaker expected to repeat it in the other.

Syphilis Treated with "606." Presented by Dr. Pollitzer.

The case was presented as an ideal one for salvarsan. The patient had been treated for his very extensive ulcerations on the arms and legs, destructive ulceration of the soft palate and a perforating ulcer of the hard palate, with protiodide pills till he had had a severe stomatitis. He had received two injections of salvarsan, neutral suspension and intramuscular, on December 30th and on January 7th. All the lesions were healed, even the perforation of the hard palate was closed up, of course by soft tissue. The Wassermann reaction was still strongly positive.

Dr. Clark said that all the patients he had seen given intramuscular or subcutaneous injections of "606," complained bitterly of the pain. He had seen an almost fatal neuritis develop in a child after receiving 0.3 gm. of "606." In the same patient a fluctuating swelling appeared at the site of the injection, which was opened and evacuated a fluid containing arsenic. He had, therefore, always used the intravenous method, which he had performed eleven times and had seen a slight induration around the vein in a few cases only. In one case, an immediate mild reaction was followed, after a period of quiescence lasting about twenty-four hours by a swelling, going on to phlebitis and a fever of 103.2° F. The induration looked and felt like that produced by a streptococcus infection. After consultation, about two inches of the vein, containing a thrombus, was removed and the wound painted with iodine. Cultures from the material removed remained sterile. By the fourth day the temperature was normal. Dr. Clark had seen no reports of a sterile thrombus developing two days after injection. The speaker had had especially good results in lesions of the mucous membranes, as of the tongue and larynx. He emphasized the importance of thoroughly washing out the vein with 40 or 50 cc. of salt solution after injecting the drug.

Dr. Pollitzer said that he had had several cases of induration developing several weeks after the injection of a neutral suspension of "606" in the subcutaneous tissues. He now used only the intravenous method, or a 40 per cent. suspension in iodipin oil injected into the lumbar muscles. He had found that the pain depended largely on the volume of the injection. In his opinion, "606" should be used only in spirilosis, never in any other diseases, or at most only in small doses.

Dr. MacKee said that at present the intravenous method seemed to be the favorite, both because of the total absence of pain and on account of the immediate effect produced. The objection, of course, was that the action of the drug, when administered in this manner, was so evanescent as to demand a second injection within a month. It would, of course, be interesting to see if two such treatments, followed by an intramuscular injection and later by mercurial treatment, would be able to reduce the routine treatment of the disease to eight or twelve months. Beyond this possibility, the speaker was of the opinion that the new preparation should only be employed in selected cases. He did not agree with Dr. Pollitzer in that "606" should never be employed in diseases other than those caused by a spiral organism. It had been reported that the drug had been found efficacious in a case of mycosis fungoides and it might be well to try it in cases of sarcoma. It had been given to patients

suffering with psoriasis and various other cutaneous affections without benefit. If there were no special indications against its use, the speaker saw no reason why it should not be tried in many of the chronic cutaneous eruptions.

Dr. Wallhauser said that he had given twenty intramuscular injections prepared by the Alt method. At first, 10 cc. were injected in each gluteal region, later, on account of the severe initial pain, apparently caused by the large amount injected, it was reduced to about 5 cc. as follows: the salt was dissolved in 4 cc. of sterile water, then 2 cc. of a 5 per cent. sodium hydrate solution added; the resulting precipitate triturated and sufficient sodium solution added drop by drop until a moderately clear liquid resulted. This method reduced the amount of fluid injected below 10 cc., which was divided into equal amounts and injected in each gluteal region. The pain following the injection had been modified by this reduction in quantity, and the preparation greatly simplified. All the patients injected improved at once and no severe symptoms referrable to the injection were observed. A case of Hodgkin's disease, that showed a positive serum reaction at the time of injection, was greatly improved and the reaction became negative in fifteen days. There was no history of lues, and a microscopical examination of an enlarged gland proved the above diagnosis.

Papulo-Necrotic Tuberculide (2 cases). Presented by Dr. MacKee.

The first patient was a Russian woman, married, twenty-eight years of age, who had been under observation at Dr. Fordyce's clinic for nearly three years. The disease had first developed on the forearms five years ago. When presented to the Society, there were numerous typical, necrotic granulomata on the extensor surfaces of both forearms, hands and buttocks, with a few scattered lesions on the face. There were, also, many scars, the result of former lesions. The Moro cutaneous tuberculin test was strongly positive. The lesions were undergoing involution apparently as a result of tuberculin therapy.

The second patient was a young woman, twenty-seven years of age, and an American by birth. She had been married only one year and had had two natural miscarriages during that time. There had been no other factors that would suggest syphilitic infection, excepting that the Wassermann reaction was positive. Four years ago the patient had an outbreak of necrotic papules on the extensor surfaces of both forearms. This attack lasted two years and the lesions left scars. One year ago there was a similar attack, which, however, lasted only a month or two. The present attack began two weeks ago, at which time the patient presented herself at Dr. Fordyce's clinic for tuberculin treatment. The patient stated that an occasional papule would develop during the interval of quiescence. When presented, there were numerous hard, deep-seated papules, with necrotic centres, arranged in groups and situated on the extensor surfaces of both forearms, with a few scattered lesions above the elbows. The buttocks were also affected. The Moro cutaneous tuberculin test was positive.

Tuberculide (?). Presented by Dr. MacKee.

This patient had been presented before the New York Dermatological Society by Dr. Fordyce in October, 1909, and before the Section by Dr. MacKee on Nov. 9, 1909 (*Jour. Cutan. Dis.*, April, 1910, p. 203). She exhibited hard, slowly evoluting papules, on the extensor surfaces of the forearms and hands, most of which underwent slight central necrosis, while some showed quite marked ulceration. Scarring was present, but was not a marked feature of the case. On the posterior surfaces of the lower limbs could be seen the pigmented remains of lesions which had been considered as erythema induratum. Largely because of the fact that the lesions had temporarily improved under anti-specific treatment and because a tumor of the neck had disappeared under the same kind of treatment several years ago, many of the gentlemen, when the patient was previously presented, had considered the case syphilitic. The lesions, however, were still present in spite of the vigorous use of mercury and iodine, and the Wassermann test which was made before the institution of anti-syphilitic treatment and again eight months after the cessation of all treatment, was negative. The Moro tuberculin test was positive. It had been suggested that the leg lesions were due to varicose veins and the speaker thought that might be a true construction, but he still adhered to a diagnosis of tuberculide in so far as the arm and hand lesions were concerned.

Dr. Clark said that this patient had had a general adenopathy, which had improved very greatly under prolonged "mixed treatment." He thought the patient had both syphilis and tuberculide.

Dr. MacKee said that he could see no clinical resemblance whatever to syphilis in this case. The exceedingly slow evolution and involution of the lesions, the necrotic and ulcerating centres, the pure white, atrophic scarring, the firmness and depth of the nodules, the persistent location, the duration and the fact that the Wassermann reaction was negative offered sufficient evidence to cause him to firmly adhere to the diagnosis of tuberculide.

Erythema Induratum. Presented by Dr. MacKee.

This patient, a young woman eighteen years of age, had been exhibited at the February meeting of the New York Dermatological Society by Dr. Fordyce. There were several typical lesions on the flexor surfaces of both legs below the knee, one of which was ulcerated. According to the patient, the eruption had existed for only two months. Since the last presentation of the case the Wassermann reaction had been obtained with negative results, while the Moro tuberculin test was strongly positive. The patient was now receiving tuberculin for its therapeutic effect.

Lupus Erythematosus. Presented by Dr. MacKee.

The patient was a female, twenty years of age, a sewing machine operator, and unmarried. She was referred to Dr. Fordyce's Clinic for treatment of what was supposed to be alopecia areata. She had four patches on the scalp, silver dollar in size, which were intensely pruritic and which were covered with heavy crusts, under which occurred occasional suppuration. The first area developed four years ago, while the last one appeared two years later. After the crusts and pus had been removed, atrophic, slight scaling lesions could be seen, which were diagnosed as lupus erythematosus. A white atrophic scar, split pea in size, could be seen on the right cheek, the result of a lesion which had developed eight years ago, and after existing for a few months disappeared spontaneously. Two weeks ago, immediately after instituting tuberculin treatment, a dime-sized lesion of lupus erythematosus appeared on the nose near the inner canthus of the left eye and several similar lesions developed on the dorsal surfaces of both hands. The Moro cutaneous tuberculin test in this case was strongly positive.

Morphœa. Presented by Dr. Clark.

The patient was an unmarried Swedish woman, aged twenty-two. Her occupation was that of a domestic. The previous history was negative as to syphilis or tuberculosis. The general health was good. The present trouble began two years ago, on the back of the neck. A white spot appeared, which the patient thought was due to the pressure of her collar button. It had gradually grown until it reached the size of her palm. It was pearly white, with a sharply marginated border and with numerous little circumscribed, whitish spots around it. A marked telangiectasis was noticed all around the patch. The skin seemed slightly atrophied, dry and parchment-like; it occasionally itched a little.

Dr. Pollitzer said that this was not a case of morphœa, but of lichen atrophicus. It lacked the hardness and the smooth firm surface of morphœa. Indeed, the skin was soft and rather thin, and its lines were exaggerated, not obliterated.

Dr. MacKee agreed with the diagnosis and called attention to the atrophy and to the violaceous border, most marked on the left side.

Nævus Unius Lateris Involving the Tongue. Presented by Dr. Williams.

The patient was a young girl who presented a classical picture of this disease on the left side of the forehead and face. The peculiarity of the case was that the tongue also was affected, the left half of the dorsum being nearly covered by a warty mass projecting an eighth to a quarter of an inch above the surface.

Annular Syphilide. Presented by Dr. Kingsbury.

The patient was an anæmic, poorly developed girl, eighteen years of age. The history of infection was rather vague. She stated, however, that her throat had been sore for several months and when presented, there were characteristic patches and ulcerations on the tonsils. The lesions of interest were on the chin and around the nose. Here were found nearly a score of small rings with elevated, waxy borders. None of the lesions were more than half an inch in diameter. They were said to have been present for about one month. There was a vaginal discharge, but no eruption on the body.

Alopecia Favosa. Presented by Dr. Kingsbury.

The patient was an errand boy, eighteen years of age. He was born in this country, but of Russian parentage. The scalp had been affected for over eleven years and several years ago the boy was treated at the Randall's Island Hospital. When shown before the Section, there were no active lesions of favus, but the baldness was characteristic and extensive.

Lupus Vulgaris. Presented by Dr. Kingsbury.

The patient was a male, forty years of age, native born. The nose had been affected for over ten years, and he had had considerable local treatment, including a large number of X-ray exposures. During the past two years the tip of the nose and nostrils had ulcerated and the cartilaginous septum had been destroyed. The case assumed clinical dignity on account of its resemblance to lues. The Wassermann reaction was negative.

Syphilide of the Scalp. Presented by Dr. Kingsbury.

The patient was an elevator operator, forty years of age. He contracted syphilis two years ago and was treated for a time at one of the large general hospitals, but discontinued medicine shortly after the disappearance of the secondaries. About one year ago a sore appeared on his face and later he began to have ulcerations on the scalp. When presented, the only active lesion was an area of superficial ulceration, about the size of a silver dollar, on the right side of the scalp, but there were nearly a dozen cicatrices of somewhat larger size on the top and back of the scalp at the site of the previous ulcers. There were thick, dry crusts around some of the scars and considerable seborrhœa of the scalp and forehead.

Charles Mallory Williams, *Secretary.*

CHICAGO DERMATOLOGICAL SOCIETY

March and April, 1910.

DAVID LIEBERTHAL, M. D., *President.*

Blastomycosis. Presented by DR. HYDE.

Mr. J. M. The family history was negative, except that one sister had died of cancer. The past personal history was negative. Two years ago the patient had a severe cough all winter, accompanied with expectoration, at times with blood. For this he took twelve bottles of "Blood Vitalizer" which "cured" the cough. Shortly after the cough ceased an eruption appeared on the face, both wrists, left shin, right thigh and shoulders. These consisted of papules, which increased in size and later became verrucous. The eruption cleared up during the next several months, except one lesion on the left thumb and some on the face. The latter gradually spread. During the time these lesions were involuting no medicine was taken and he felt well generally. In October, 1909, "lumps" began to appear on the left forearm, which gradually increased in size and number. Two months ago the cough returned, and the "Blood Vitalizer" was resumed, two bottles being consumed. During these two months the condition had rapidly become worse. When presented to the Society, the patient showed extraordinarily extensive lesions. The face, including both cheeks, the nose, eyelids, and forehead were covered with crusting, pustular and verrucous lesions, interspersed with delicate scar formations. The lower lids were effaced by contractures, marked ectropion being present. Conjunctivitis was pronounced. In addition, the right cheek, midway between the angle of the jaw and the chin, presented a large pigeon's-egg-sized, unruptured, subcutaneous abscess. The left hand, forearm and arm showed an enormous number of abscesses, ulcers and crusting areas, with much infiltration, the whole limb being much enlarged. On the left shin and thigh were large, delicate scars. Cultures had been made and blastomycetes, budding and otherwise, had been demonstrated. The lesions were being dressed with magnesium sulphate and the patient was taking potassium iodide with iron tonics internally.

Tubercular Syphiloderm in a Boy. Presented by DR. HYDE.

The patient, seventeen years of age, gave a history of having had the present trouble for five years. On the posterior surface of the right arm, covering about two-thirds of the surface above the elbow and extending downward to the junction of the middle and lower thirds of the forearm, were a number of thin, whitish scars, mostly merged together and almost

devoid of pigment. Two active ulcerative lesions were present; one at the lower border of the affected area, about half as large as the palm of the hand; the other, a little smaller and situated at the bend of the elbow; many marginal tubercules were present in both lesions. A Wassermann test made on serum from the patient's blood was negative. When serum taken from the active lesions was used, the test proved to be strongly positive. There had been no exposure to venereal infection and no history pointing to a definite syphilitic infection could be obtained.

Case for Diagnosis. Presented by Dr. Quinn.

The patient, a girl of nine, was suffering from an ill-defined dermatitis of the face. It had been present three years; itching at times was severe; weeping was scarcely ever present. Her mother stated that the condition was worse during the summer and considered it to have resulted from vaccination. Treatment by bland lotions and ointments had been without apparent effect.

Dr. McEwen stated that he had seen the case two years before and that the eruption now seemed to be about the same. He called attention to the atrophic condition of the child's hair.

Epithelioma of the Hand. Presented by Dr. Quinn.

John M., aged seventy-eight, showed a slightly elevated, verrucous lesion on the back of the right hand, the size of a silver dollar. An examination of pus from the lesion for blastomyces had given negative results, while a biopsy confirmed the diagnosis of epithelioma.

Verruca Vulgaris. Presented by Dr. Hyde.

This case of recurrent warts on the hands of a young woman was shown as an instance of the occasional persistent and refractory nature of the disorder.

Syphilis with Persistently Recurring Lesions. Presented by Dr. Foerster.

The patient, a man aged sixty-seven had contracted syphilis thirty-two years ago and had received a short course of treatment. Eight years later, serpiginous lesions appeared on the left arm, with considerable superficial scar formation; in the midst of these scars, relapses of a papulo-squamous type continually appeared. Ten years ago, flat papular lesions developed on the scalp and forehead. These recurrences were all very readily and favorably affected by mercurial treatment. The case was shown to supplement Dr. Hyde's case of acquired syphilis in a young boy, shown at the last meeting.

Lupus Erythematosus. Presented by Dr. Simpson.

The patient was a man, sixty years old, from Dr. Zeisler's clinic. Two years ago, while shaving himself, the patient had inflicted an injury to a small wart on the right side of the face. This slight trauma did not heal and a scaling, red area had resulted, which had steadily increased in size. When the case was presented, there was seen on the right side of the face, anterior to the ear, a lesion measuring four inches, irregular in shape, sharply defined, dark red in color, covered with adherent scales and level with the adjacent normal skin. No infiltration or thickening could be detected. Lupus erythematosus was considered the most probable diagnosis.

Keloid. Presented by Dr. Simpson.

The patient was a girl, four years old, from Dr. Zeisler's clinic. Following a scald six months ago, caused by upsetting a pot of hot tea, numerous keloids had appeared upon the site of the resulting scars. Typical, pinkish, keloidal growths were present on the anterior aspect of the neck, the sternal region and the flexor surfaces of the arms. These varied in size, but the average dimensions were two by four inches. They were elevated about one-half an inch above the surface of the normal skin. The father stated that in the last one or two months there had been an apparent decrease in size of some of the lesions. Hope of spontaneous involution seemed, therefore, justified.

Syphilis. Presented by Dr. Simpson.

The patient, who was from Dr. Zeisler's clinic, was a man twenty-eight years old. The eruption had been present for about one week. Four months ago he had a "sore" on the upper lip, which had been followed about four weeks later by "spots" on the body. The lip lesion and eruption had disappeared under a few mercurial injections. When the case was presented there appeared on the trunk and upper arms a profuse syphilide which was thought to be a recurring roseola.

Ernest L. McEwen, M.D.,
Secretary.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the Charge of George M. MacKee, M.D.

A SPECIAL REVIEW OF SALVARSAN.

By Faxton E. Gardner, M.D., New York.

(*Continued from page 465.*)

A *systemic reaction* is very frequent after an injection of salvarsan. Some writers—Herbsmann, for instance—go even as far as asserting that the reaction, if constant, should be taken as a token that the drug is not inert, and, as such, should be welcomed by the patients themselves; that it is, therefore, a waste of time to look for improvements in technique that would do away with that reaction. However, this assertion is qualified by the fact that Herbsmann considers as symptoms of a typical reaction a chill, some headache and some nausea. Fever is not constant, nor are any of the other unpleasant symptoms that have been reported in a few cases; these do not belong to the normal systemic reaction; they must be considered as more or less accidental and preventable. Vomiting and some intestinal disturbance are common, especially in neurotic individuals; a slight renal irritation is not infrequent.

Among incidents occurring a few days after the injection, without premonitory symptoms, is the sudden epileptiform seizure, without biting of the tongue, such as reported by Edgerton and others on the fifth and sixth day. Mann has seen, three days after injection, a complete unconsciousness with abolition of all the reflexes, lasting for three days and disappearing gradually. These phenomena might be due to the acute œdema of the encephalon which we know can develop two or three days after an infusion of salvarsan. In most cases the serous effusion undergoes a quick resorption and no ill-effects follow: In Edgerton's cases, the patients remained perfectly well after they had regained consciousness. But in a few cases, serious and even fatal results were noted. Fischer reports the case of a man who died in coma less than twenty-four hours after the onset of the symptoms. Autopsy disclosed a hæmorrhagic encephalitis and an incipient cirrhosis of the liver; besides, the patient had been previously saturated with mercury and iodide. Almkvist also, reports a case of death from hæmorrhagic encephalitis, the first one in a series of 184 intravenous salvarsan injections. The victim was a man, thirty-two years of age, whose brain had probably been weakened by the disease, as had that of Fischer's case, as symptoms referable to brain

involvement had been marked. Ehrlich long ago explained the fatal results following the administration of salvarsan to patients having cerebral syphilis to œdema of the brain and medulla oblongata. The too massive freeing of spirochætal endotoxines probably plays a great rôle in the production of these accidents; they seem to be more frequent in patients whose nervous systems have been more affected by the syphilitic virus and in those in whom previous mercurial treatment or salvarsan injections had already been given, so that anaphylaxis is a possible factor. Finally, lesions of the excretory and antitoxic organs, kidneys and liver, probably must also be incriminated. But whatever the cause or causes of these accidents, we must remember that sometimes salvarsan induces intracranial disturbances of varying severity. Quite recently (*Med. Jour.* New York, Dec. 16, 1911), Seegman summarized the viewpoint of the Vienna otology school, around which centres the enmity to salvarsan as to neurorecurrences. He quotes the experiences of Beck and Rothig, and believes that the vestibular branch of the acoustic nerve is a *locus minoris resistentiae*. It would be a remarkable coincidence if salvarsan should find its stumbling block in the acoustic nerve, just as atoxyl found it in the optic nerve.

As to the *efficacy* of salvarsan in syphilis, we must distinguish between the visible action on clinical lesions, easy to gauge, and the hidden action on the disease itself, as reflected more or less accurately in the Wassermann reaction.

In regard to the action on the lesions, there is no doubt that salvarsan acts more quickly and more powerfully than mercury and iodide. Later observations are all confirmatory of the earlier reports. The percentages given vary considerably with the different authors; but there is no doubt as to the general superiority of salvarsan. Especially is it marked in those cases united a little arbitrarily under the name of malignant syphilis, the chief common character of which seems to be resistance to mercury and iodide, either from acquired immunity or natural intolerance to these drugs. To speak of America alone, Morrow, Fordyce, Pollitzer, Post, Pusey, Edgerton, and many others, are all agreed on this point.

As to the real action on the disease there is naturally much more uncertainty. The influence on the Wassermann reaction is by no means an absolute criterion, *per se;* and the results of the different observers vary to an almost incredible extent, the proportion of cases where the reaction becomes negative oscillating, according to statistics, between 5 and 90 per cent! However, some points may be considered as settled: One injection is not enough to make the Wassermann permanently negative; only 7 out of 61 cases (11.4%) reported by Engman and Buhman, became negative after a single dose. Fox says that 30 per cent. of his cases became negative after six weeks. Repeated injections of salvarsan,

or following the latter by a course of mercurial treatment markedly raise the proportion of negative cases. The question is fraught with much difficulty anyway, because the results of a Wassermann reaction with one given serum may change widely according to the man who does the laboratory work. So that, barring the fact that one injection is not enough, several, or the combined salvarsan-mercury treatment, seem to have many more chances of giving a permanent negative Wassermann.

The more we use salvarsan, the more it appears that its action is very similar to that of mercury; both are toxic; both give apparent cures and also allow recurrences; one dose of salvarsan, however, being the equivalent of many doses of mercury. Consequently, there is no more question of a *therapia sterilisans magna,* but simply of a shortened *sterilisatio fractionata* effected by a few doses of mercury. This being so, why not prolong the strong, but short-lived, action of salvarsan, by the milder but longer action of mercury; that is, why not follow every injection of salvarsan by a course of mercurial treatment, either by inunction or, preferably by injection? Such a procedure was advocated by Ehrlich even before salvarsan was put on the market and the suggestion was received with favor, both here and abroad. The general line of treatment for a case of syphilis seen from the outset seems to be that recommended by Fordyce, namely, one or two injections at the beginning, either one intravenous followed by an intramuscular, or two intravenous followed by a course of salvarsan-mercurial treatment. It is preferable to give two intravenous injections, at about three weeks' interval; because after one injection, the proportion of recurrences of symptoms is still high, about 25 per cent., and the silent relapses as evidenced by a Wassermann reaction becoming positive again without clinical recurrences, make it still higher. But according to Edgerton, after two injections the proportion of relapses decreases to about 2 per cent. If more than two injections are given, care ought to be taken to space them sufficiently, as there might develop some disturbance due to anaphylaxis, though the latter is by no means frequent. This seems to afford the patient the best chances for a speedy eradication of the infection and brings about a permanently negative Wassermann far more certainly and quickly than mercury alone. Relying on salvarsan alone is not safe or, at least, it cannot be declared positively safe in the actual condition of our knowledge. To say that we ought not to give mercury to our patients treated with salvarsan, because if we do, we shall never know what salvarsan is worth, as Hagner contended recently at a medical meeting, was promptly met by the statement that what was foremost in the minds of physicians was the welfare of the patient, and not simply the curiosity of knowing what salvarsan could or could not do. This applies only for the routine treatment of early syphilis; in tertiary lesions, very brilliant results are frequently obtained without mercury. It might even be

preferable, in those cases of tertiary lesions which have been treated for some time with mercury and iodide, with no or but little response, not to follow salvarsan by mercury; all the more because sometimes in these cases, the injection of salvarsan seems to liberate the hitherto inactive mercury accumulated in the organism; Hagner has reported two such cases in which the patients became suddenly mercurialized forty-eight hours after the injection of salvarsan.

One of the most important mooted questions about salvarsan is its *action on sensory nerves,* particularly on the optic and acoustic. The well-known and unfortunate affinity of atoxyl for the optic nerve was the thing that made experimenters shy from the outset about trying salvarsan in cases where there was a lesion of the nerve, or of the visual apparatus. A few unfavorable early reports produced a similar feeling against salvarsan, despite the fact that Ehrlich explained the untoward results by the action of methyl alcohol which was used as a solvent in the beginning. Despite later favorable reports, such as those of Emery, who had seen nothing but good from salvarsan in 45 ophthalmological cases, including iritis, keratitis, choroiditis and retinitis, and of Strielp, who failed only in interstitial keratitis, and despite Ehrlich's assertion that there was nothing to fear from salvarsan in ocular syphilitic affections, there has always been more or less trepidation whenever such a case was injected. And this sentiment against the drug was crystallized by Finger (of Vienna) who stoutly charged salvarsan with being harmful and having a decided neurotropic action, as regards the optic and acoustic nerves. Salvarsan having become now, as it has, a very widely used substance, the question is of importance because should Finger's assertions be upheld by facts, it would mean that all cases having ocular or auditory manifestations could not be treated with salvarsan without danger.

It has been noted long ago that occasionally, a few weeks or a few months after one injection of salvarsan, iritis, choroiditis, optic neuritis, ocular muscular palsies, ptosis, etc., appeared. Sometimes a transitory amaurosis or a scintillating scotoma developed soon after the injection. The same sequences were observed in the domain of the acoustic nerve, under the guise of hearing and labyrinthine disturbances suggestive of auditory neuritis.

The chief accusations made against salvarsan are as follows: Mucha reports, from Finger's clinic, 44 cases of *neurorecurrences* out of 500 syphilities given salvarsan treatment. These include 18 auditory disturbances, 6 cases of optic neuritis and 6 of neuritis of other cranial nerves. The writer makes much of the fact that the disturbances affecting the auditory nerve published since the introduction of salvarsan far outnumber all the cases recorded in twenty years prior to salvarsan. He charges a direct toxic action of the drug on the nerves, and sees con-

firmatory evidence in the two cases reported (one by Beck) where improvement followed a sweat and pilocarpine treatment given with the idea of hastening the elimination of arsenic. It may also be that salvarsan sensitizes the syphilitic virus.

David reports one case of auditory disturbance after an injection of salvarsan; he believes, also, that the drug has a special affinity for nerves, and that it is stored up for a long period in the liver, probably under the form of a decomposition product.

Trömner and Delbanco report three very serious cases of polyneuritis affecting the cranial nerves. In the first case, two months after the injection, total deafness occurred on the left side, with the characteristics of a truly syphilitic affection on this side, while on the right side the symptoms pointed to a toxic injury to the auditory nerve.

The second case was that of a woman of twenty-eight who developed weakness and paralysis in the territories of the first, sixth, seventh, ninth and eleventh cranial nerves two months after an intragluteal injection of salvarsan, and, later, signs of mild polyneuritis of very long duration. A third case was similar to the last one, developing, also, two months after the injection, but was still more severe. Trömner believes in a direct toxic action of salvarsan on nerves and in an added indirect action in syphilis, due to the reaction œdema and the reactivation of syphilitic processes during a certain critical period lasting about two months. Delbanco believes, also, in a direct toxic action, and rejects the explanation frequently given of the neurorecurrences in the auditory and optic nerves, namely, that these nerves are shut in tight in bony canals, and that the natural reaction, harmless where the nerve has room to expand, becomes here a source of compression. Why salvarsan exerts its toxic action on certain nerves more than on others is a phenomenon of the same order and as inexplicable as the predilection of lead palsy for the musculospiral nerve. Desneux and Dujarom report seven neurorecurrences out of 351 cases. Hildliczka reports a case of fatal toxic encephalitis in an army officer thirty-three years old; as, however, there was no autopsy, the diagnosis remains uncertain and Ehrlich, commenting on the case, believes that the condition was simply a recurrence of active syphilis and not a toxic encephalitis. Those who do not believe in the neurotoxic action of salvarsan consider these nervous disturbances as manifestly syphilitic in nature. Their line of argument is as follows: The *post hoc, ergo propter hoc* reasoning seems to them as fallacious here as it generally is.

It must be remembered that one of the early and most prominent symptoms of the secondary "explosion" of syphilis is due to the impregnation of the tissue of the nervous centres, of the blood vessels, of the meninges and the nerve trunks, by spirochætal toxines, as evidenced by the headache, more or less marked, but seldom altogether lacking and

sometimes by much more serious manifestations. In all respects, the two large sensory tracts, the optic and the auditory nerve, are anatomically, embryologically and physiologically, integrant parts of the nervous centres, and have a blood supply emanating directly from that of the encephalon. Consequently we cannot conceive of an impregnation of the nervous centres by syphilitic virus at the secondary period without an involvement of the optic and acoustic tracts. Such an involvement may not be particularly severe and may escape unnoticed in the midst of more prominent and more generalized symptoms. When, for instance, there is a violent general headache, little heed is paid to ocular fatigue, photophobia or impairment of hearing. Later, when the general symptoms abate under the influence of treatment, the more localized and specialized processes may come to the front; but there is nothing in that to establish a neurotropic action of salvarsan.

It might be admitted that salvarsan could cause a temporary aggravation of ocular or auditory symptoms, on account of the freeing of syphilitic toxines; indeed, cases have been reported where an injection of salvarsan caused an iritis to relapse; this is always temporary, however, and is nothing more than a Jarisch-Herxheimer reaction in the eye or ear.

Von Zeissl denies that there is a neurotropic action of salvarsan, but admits that, like mercury, salvarsan may cause the appearance of precocious syphilitic affections of the nerve in certain predisposed individuals. Benario, after analyzing carefully Finger's cases, states that they do not establish a neurotropic action of salvarsan, but that the symptoms described are due to syphilis itself. The optic atrophy described by Finger is due to the uncombated syphilitic infection and not to salvarsan.

This seems to us to be more rational than Finger's pessimistic assertions. In most cases, a careful questioning brings out the fact that symptoms similar to those blamed on the salvarsan existed before the administration of the latter, they were improved temporarily after the injection, but recurred some time after. The practical importance of the point is this: if the symptoms are due to salvarsan, they forbid the use of the latter; if they are due to syphilis, they call for a high dose of salvarsan. This is far from being a matter of purely academic importance.

The fact that a second injection of salvarsan cleared up all the symptoms in a number of cases is seemingly incontrovertible evidence of the truth of Benario's views. A very interesting case of the kind was quoted (personal communication) a short time ago by Dr. D. Sinclair. After an injection of salvarsan, in a young man, there was a temporary improvement, then symptoms of marked internal ear involvement developed; the advisability of a second injection was carefully weighed, as the condition of the patient was very miserable. It was learned that the patient had already suffered from similar, but milder,

symptoms before the first salvarsan injection. A second dose, double the normal amount, that is, 1.20 gm., was given intravenously, and everything cleared up beautifully within a week.

Many, but not Mucha, who claims that continuing the treatment sometimes cures the sensory disturbance, maintain that salvarsan injures the nerve considerably, thus inducing a point of lesser resistance, where the syphilitic poison strikes more intensely. Such an explanation seems a little far-fetched. There are many puzzling factors in the cases reported by the anti-salvarsan partisans; there are enough of them to compel us to be very cautious, but we do not believe that they prove the neurotropic action of salvarsan. So many cases of ophthalmic lesions have been improved by a second dose that there cannot be any question of neurotropic action and we trust that the new remedy will supersede or be associated with mercury and iodine in the time-honored therapeutic test.

Fisichella has seen two patients with cutaneous eruptions developing after an injection of salvarsan, one similar to intercostal zoster, the second an itching erythema over all the covered parts of the body. That the latter was of arsenical origin cannot be gainsaid, as it recurred after a physician, who did not know of the previous salvarsan treatment, prescribed a course of Fowler's solution. Marschalko, after an injection of but 0.3 gm. saw extremely severe signs of intoxication; there was a total anuria lasting for more than twenty-four hours, chills, vertigo high fever, vomiting, diarrhœa, and marked depression. But a study of the symptoms convinced the writer that salvarsan itself was not to blame. He ascribes the symptoms to the bacteria and bacterial products in the water used for the salt solution. In hot weather, a prolific vegetation flourishes in the water, and though killed by boiling, the germs persist as albuminous bodies, which are liable to cause severe toxic symptoms when introduced directly into the circulation. The prophylaxis of these accidents is obvious: Distil and boil the water just before using. Galewsky also calls attention to the importance of care in the production of the salt solution; this vehicle was responsible for the only annoying after-effects he ever observed in a series of 370 intravenous injections.

A few cases of death were reported in 1911. Most of them are, as were those reported previously, in patients having lesions of the central nervous system. We have already commented on several fatal cases due to encephalitis. One of these cases is doubtful as there was no autopsy. Westphal refers to a recent syphilitic meningitis with true tabes. In a case of Mucha's, death was caused by meningo-encephalitis. In another of his cases, a nephritis (non-fatal) developed, for which the author thinks the salvarsan was responsible, as traces of arsenic were found in the urine months after an intramuscular injection of the drug and the renal condition improved considerably under a sweating treatment.

But, considering the enormous number of injections given, the number of serious, untoward results reported is exceedingly small. There is not one single active drug of equal potency against which a list of as many casualties could not be written. Salvarsan now ranks among the safe drugs. Many men have given several hundred injections without seeing any serious complications.

(*To be continued.*)

BOOK REVIEWS.

Praktische Ergebnisse auf dem Gebiete der Haut- und Geschlechts-Krankheiten. Erster Jahrgang, bearbeitet von S. Bettmann, Heidelberg; L. Hauck, Erlangen; H. Hübner, Marburg; A. Jesionek, Giessen; P. Linser, Tübingen; E. Meirowsky, Köln; E. Riecke, Leipsig; Fr. Siebert, München; L. von Zumbusch, Wien. One Vol., in 4°, pp. 573. Wiesbaden. *J. F. Bergmann*, 1911; New York agents; *G. E. Stechert & Co.*

This is the first of an intended series of yearly books, each of which will give the practitioner and the specialist a general survey of the research work and of the progress made during the year in the various fields of medical endeavor, in so far as they have any practical bearing. The number of articles, reviews and monographs, published every year is so enormous that it is beyond possibility for anybody engaged in active work to read them all. To extract the "meat" of all publications, to familiarize the reader at least, with the titles and to give to the real valuable studies a place commensurate with their importance is the avowed purpose of the editor, Dr. Jesionek of Giessen.

The first volume contains ten chapters: gonorrhœa; development and present status of radio- and radium therapy (rather a synopsis of the past history than a summary of recent progress, which is, however, promised for the following volumes); arsenotherapy, a good chapter which, however, dwells at length on atoxyl and arsacetin, questions which have already become obsolète; general therapy of skin diseases, in which the obscure question of metabolism in dermatological conditions is discussed without much light being shed on the point; toxic exanthemata; the relations of skin diseases to disease of other organs; Wassermann's reaction in 1908 and 1909; the fight against sexual diseases; the cutaneous manifestations of leukæmia; eczema.

The value of this publication will depend on how it will keep abreast of the times, and how carefully it will be edited. About the latter point, we may rest assured that everything will be satisfactory.

The bibliographical indications take, perhaps, more space than would seem necessary; thus after the chapter on radiotherapy, there are 2,000 full titles filling 73 pages, while the article itself takes only 32; and the references about eczema number 1,300 and cover 66 pages, the text itself filling only 80.

F. E. G.

La syphilis expérimentale, par le Dr. Alfred Lévy-Bing, Médecin de Saint-Lazare; Lauréat de la Faculté de Médecine, et le Dr. Paul Laffont, Ancien Interne de Saint-Lazare; Lauréat de la Faculté de Médecine. 1 Vol., in-18, pp. 330. *Octave Doin et Fils*, Paris, 1911.

Not so many years ago, it was generally conceded that the human body had the unenviable privilege of being the sole ground favorable for the development

of the then unknown causal agent of syphilis; but since Metchnikoff and Roux, in 1903, established for the first time beyond discussion, the transmissibility of syphilis to the chimpanzee, it has been shown conclusively that most of the simians and a number of lower animals can be successfully inoculated. Experimental syphilis has played a great part in the newer therapeutic studies and its importance can scarcely be overestimated.

Lévy-Bing and Laffont have condensed in a small book all the published research work in experimental syphilis. The reading is often technical. This cannot be avoided in a book devoted purely to laboratory experiments; but nevertheless, it will pay to read it through. In the first section, after an historical exposé, the authors study experimental syphilis in monkeys and dwell particularly on the problems of the infectiousness of various substances; gummatous tissue, blood, semen, etc. They then describe the evolution of the initial sclerosis according to the species inoculated and finally, the later evolution of the disease.

In the second part, the most technical of them all, they review experimental syphilis as studied in rabbits, dogs, sheep, cats, horses, rats, mice, and guinea pigs.

The third and last part shows the importance of experimental syphilis in the study of ætiology and diagnosis of the disease, and in its treatment. However uninviting a perusal of the details of experimentation may look, it may be safely asserted that experimental syphilis holds the key to all future knowledge of the disease and therefore must, of necessity, be studied by the modern syphilologist even when interested chiefly in the clinical and therapeutic aspects of the disease. Lévy-Bing and Laffont's book will come in handy for this purpose, as it contains all the useful data in a concise form. F. E. G.

Beiträge zur Pathologie und Therapie der Syphilis. Unter Mitwirkung von Dr. G. Bärmann, Petoemboekan (Sumatra); Dr. C. Bruck, Breslau; Dr. Doiii, Tokio; Dr. Kobayashii, Sasheho (Japan); Ehrich Kuznitzky, Breslau; Dr. R. Pürckhauer, Dresden; Dr. L. Halberstädter, Berlin, Dr. S. von Prowazek, Hamburg; Dr. Schereschewsky, Göttingen; Dr. C. Siebert, Charlottenburg. Herausgegeben von Dr. Albert Neisser, ordentlicher, Professor in der Universitat Breslau, Geheimer Medizinalrat. Berlin, *Julius Springer,* 1911, in 4, pp. 627.

This is also a book devoted to experimental syphilis, but of a very different scope. It deals with Neisser's research work in Batavia during the years 1906 and 1907, with a corps of trained assistants and unlimited simian material at his disposal. It begins with the history of the expedition and ends with the test of atoxyl, arsacetin, arsenophenylglycin, that is, the forerunners of salvarsan. It does not speak of the latter, but the connection of the latter's discovery with the line of work pursued by Neisser, as set forth in this book, is too obvious to be forgotten by anybody.

It would be impossible comprehensively to abstract the six hundred odd pages in the space alloted to book reviews. At most, we can try to give a general outline of the chapters.

After an introduction, dealing with the previous experimental work done by others, and the organization of the Java expedition, comes the scientific part, divided into 20 sections, the first 18 of which treat of syphilis.

Sections 1 to 11 inclusive, and 13 to 17 are by Neisser. Section 14, the all-important serodiagnosis, was written by Bruck; the others by co-workers.

The titles of the sections show how thoroughly the ground was covered: 1, primary manifestations of syphilis in monkeys; 2, causes of the differences in the incubation period; 3 and 4, significance of the experimental research and the demonstration of spirochætæ for the pathology and diagnosis of human syphilis; 5, pathology of syphilis in monkeys; 6, generalized syphilis in monkeys; 7, at-

tempts at subcutaneous inoculations; 8, attempts at intravenous inoculations; 9, peculiarities of spirochætæ; 10, conception of constitutional syphilis; 11, researches on immunization; 12, therapy; 13, serodiagnosis. The other sections are devoted to prophylaxis and some other minor points.

One is appalled by the enormous amount of work that lies behind such a book; it is throughout pervaded by the German exactness and care of details; however, at the same time, it does not lack in general ideas. The eleventh section, the conception of constitutional syphilis, is really a wonderful chapter. The question of serodiagnosis is treated as one naturally would expect Dr. Bruck to treat it. F. E. G.

The Experimental Chemotherapy of Spirilloses (Syphilis, Relapsing Fever, Spirilloses of Fowls, Frambœsia. By Paul Ehrlich and S. Hata. With contributions by H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Cairo; and Dreyer, Cairo. Translated by A. Newbold, and revised by Robert W. Felkin, M. D., F. R. S. E., etc.; Late Lecturer on Tropical Diseases, Edinburgh Medical School. With 34 tables in the text and 5 plates. New York, *Rebman Company.*

The title of this magnificent book might lead one to think that a perusal of its contents, although instructive, would be too laborious for the busy practitioner. Such, however, is not the case. The manner in which Dr. Hata leads one through the intricate problems and the mass of technical detail leading up to our present knowledge of salvarsan and syphilis is remarkable. The details are tabulated, so that the results are seen at a glance and the text is not interrupted by repetition and unnecessary explanations.

The volume opens with a short introduction by Dr. Ehrlich. Dr. Hata then occupies 83 of the 156 pages of reading matter by a description of experimental chemotherapy from the very beginning to its present status. He carefully and intelligently describes the experiments made with colloid mercury, the various dyes, the arsenical compounds and, in fact, with all the substances that were employed in the work that led to the discovery and usefulness of salvarsan. The microörganisms used in the work were those of relapsing fever, spirilla obtained from fowls and the treponema pallidum.

If anyone thinks that the discovery of salvarsan was an accident, he has only to read this book to have the idea dispelled. The amount of work done was stupendous and from the first chapter one sees one layer after another added to the scientific foundation upon which salvarsan rests.

Following Hata, Nichols gives a short preliminary account of his work with salvarsan with the spirochæta pertenuis in the animal body. His results are very encouraging.

Iversen next reviews his work with salvarsan in the treatment of relapsing fever. His results are brilliant. Bitter and Dryer, also, give a short synopsis of their experience with salvarsan in relapsing fever and their findings are in accord with those of Iversen's.

The book closes with Ehrlich's concluding remarks, in which he reviews the work from the beginning and in which he explains the object of his twenty-five years of labor in this field. He devotes 38 pages to a theoretical and practical survey and discussion of the subject and it makes fascinating reading.

There is a bibliography up to Oct. 5, 1910. The book is exceptionally well translated, indexed, printed and bound. No one who is interested in syphilis and salvarsan can afford to be without this admirable and instructive volume.

G. M. M.

BOOKS AND REPRINTS RECEIVED.

Books marked with an asterisk will be reviewed.

BOOKS.

The Treatment of Syphilis with Salvarsan. By Sanitätsrat Dr. Wilhelm Wechselmann, of Berlin; Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an introduction by Professor Dr. Paul Ehrlich, of Frankfurt-on-Main; Director of the Royal Institute for Experimental Therapeutics, Frankfurt. Only authorized translation, by Abraham L. Wolbarst, M.D., of New York. Revised edition, with an appendix, bringing the literature up to date, by Dr. Wolbarst. 19 textual figures and 16 colored illustrations. *Rebman Co.,* New York, 1911.

***Syphilis from the Modern Standpoint.** By James McIntosh, M. D. (Aberd); Grocers' Research Scholar; and Paul Fildes, M. B., B. C. (Cantab); Asssistant Bacteriologist to the London Hospital. Illustrated. *Longmans, Green & Co.,* New York and London, 1911.

REPRINTS.

Ueber transpelliculare Behandlung, insbesondere mit Schälcollodium. P. Unna. *Berl. klin. Wchnschr.,* 1911, No. 40.

Syphilitic Lesions of the Eyelids, with Report of Cases. F. J. Parker, *N. Y. State Jour. Med.,* July, 1907.

"606" et mercure. Paul Ravaut. *Tribune méd.,* 1911, No. 10.

Les indications cliniques et thérapeutiques fournies par la ponction lombaire au cours de la syphilis acquise et héréditaire. (1) Technique de l'étude du liquide céphalo-rachidien. (2) Les différents types de réaction du liquide céphalo-rachidien. (3) Evolution des réactions méningées. (4) Déductions pratiques. Paul Ravaut. *Monde méd.,* 1911, No. 428.

Etude biopsique de la méningo-vascularite syphilitique. Paul Ravaut. *Presse méd.,* 1911, No. 77.

Les accidents et les contre-indications du "606." Paul Ravaut et Cain. *Jour. méd. franc.,* Oct. 15, 1911.

Discoloratio Unguium: (1) Leucopathia unguium; (2) Ungues Flavi. W. Knowsley Sibley. *Brit. Jour. Dermat.,* Sept., 1911.

Hyperæmia in the Treatment of Skin Diseases. W. Knowsley Sibley. *Practitioner,* Sept., 1911.

The Treatment of Scar Tissue. W. Knowsley Sibley. *Med. Press and Circular,* May 24, 1911.

TITLE PAGE FOR VOLUME XXIX.

Through a misunderstanding the title page of Volume XXIX was omitted from the December Issue of THE JOURNAL. It will be found in the present issue.

THIRTY-SIXTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The thirty-sixth annual meeting of the Association will be held in St. Louis, Mo., May 23rd, 24th and 25th, 1912. The subject for general discussion will be "The Ætiology of Eczema." Drs. Johnston and Knowles have been chosen to lead the discussion.

SEVENTH INTERNATIONAL CONGRESS OF DERMATOLOGY.

The Seventh International Congress of Dermatology will be held in Rome from the 8th to the 13th of April, 1912. Scientific contributions will be accepted if announced within the next few weeks.

THE JOURNAL AND THE AMERICAN DERMATOLOGICAL ASSOCIATION.

THE JOURNAL is now owned by and published under the auspices of the American Dermatological Association.

Owing to the increase in the size of THE JOURNAL from 48 to an average of 58 pages, the yearly subscription has been advanced from $4.00 to $5.00.

THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXX FEBRUARY, 1912 NO. 2

REPORT OF EOSINOPHILIA IN SCABIES, WITH A DISCUSSION OF EOSINOPHILIA IN VARIOUS DISEASES OF THE SKIN.*

By Jay Frank Schamberg, M.D., and Albert Strickler, M.D., Philadelphia, Pa.

ON Dec. 22nd, 1910, the authors read before the Philadelphia Pathological Society a preliminary report on the "Occurrence of Eosinophilia in Scabies," with records of blood counts in nineteen cases. This study of the blood in scabies was suggested by the finding of an eosinophilia in "Grain Itch" in 1909 (Schamberg: Grain Itch (Acaro-Dermatitis Urticarioides, a Study of a New Disease in This Country, *Jour. Cutan. Dis.*, Feb., 1910).

In the preliminary report referred to, it was admitted that the number of cases examined was too small to permit of any definite conclusions. Since this time, we have continued to examine the blood of scabies patients and we beg to present herewith the results of counts in forty-seven cases.

Eosinophiles occur normally in the blood in the proportion of 0.5 to 4 per cent. Five per cent. is generally regarded as the maximum physiological limit. The average, of course, is considerably below this figure. Of the 47 cases of scabies, 38 or over 80 per cent. of the cases, showed five or more per cent. of eosinophiles. The maximum count was 19 per cent., but there were also cases exhibiting 14, 12 and 10 per cent. The average eosinophilia in the entire series was 7 per cent. The cases exhibiting no increase of eosinophiles were,

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

TABLE NO. 1.

Differential Blood Count in Scabies.

Case	Sex.	Age.	Duration of eruption.	Extent.	Polymorphonuclears.	Lymphocytes. Small.	Lymphocytes. Large.	Eosinophiles.	Transitionals.
					Per c.	Per c.	Per c.	Per c.	Per c.
1	F	27	1 month.	Moderate.	55	22	4	19	0
2	M	32	.....	Not extensive.	68	20	4	8	0
3	M	..	2 months.	Moderate.	60	22	6	12	0
4	F	49	6 "	"	62	28	2	8	0
5	F	12	3 "	"	67	26	2	5	0
6	M	..	2 weeks.	Sparse.	65	27	2	6	0
7	F	14	2 "	"	58	31	7	4	0
8	M	11	2½ wks.	Moderate.	55	28	11	5	0
9	..	..	3 weeks.	Generalized.	68	23	3	5	1
10	..	10	.....	.....	61	30	1	8	0
11	F	25	1 month.	Generalized.	70	19	3	8	0
12	M	21	2 months.	"	72	18	3	7	0
13	F	6	3 "	Moderate.	65	25	1	8	1
14	M	7	3 weeks.	Scant.	52	28	1	9	0
15	F	..	.....	Well marked.	60	28	2	10	0
16	M	44	2 weeks.	Extremely scant.	65	31	6	3	0
17	M	21	3 weeks.	Scant.	75	23	2	0	0
18	M	28	6 "	Well marked.	66	20	0	14	0
19	M	25	2 months.	Moderate.	65	25	2	7	1
20	F	6	2 "	Scant.	70	24	2	4	0
21	M	26	3 "	Generalized	65	25	2	8	0
22	M	22	.....	Not marked.	72	25	2	1	0
23	M	20	7 months.	Well marked.	70	21	1	7	1
24	M	..	10 weeks.	Generalized.	70	20	3	7	0
25	M	12	1 month.	"	71	19	2	7	1
26	M	12	3 weeks.	"	71	24	0	5	0
27	M	9	2 "	"	70	20	2	7	1
28	M	18	1 month.	"	65	25	1	9	0
29	M	6	6 weeks.	"	67	22	2	9	0
30	F	15	.....	Slight.	70	22	1	7	0
31	M	29	3 weeks.	Generalized.	65	25	2	7	1
32	F	7	6 months.	"	67	22	3	8	0
33	M	22	1 month.	"	64	23	3	9	1
34	M	17	4 weeks.	"	60	24	5	10	1
35	M	25	1 month.	"	70	20	1	9	0
36	F	25	3 months.	"	70	20	2	7	0
37	F	18	3 "	"	65	25	1	9	0
38	M	9	3 "	Slight.	70	21	4	3	2
39	M	9-12	.....	Generalized.	65	25	1	9	0
40	F	38	3 weeks.	"	70	20	3	7	0
41	M	..	10 days.	Scant.	70	22	2	6	0
42	F	45	2½ wks.	Moderate.	70	20	2	8	0
43	..	..	. .....	.....	75	22	2	1	0
44	F	6-12	2 weeks.	Generalized.	65	24	2	8	L
45	F	29	.....	Scant.	70	25	1	4	0
46	M	18	2 months.	Scant.	70	20	3	7	0
47	*M	24	.....	Generalized.	68	29	1	0.5	1.5

*Suspected scabies.

for the most part, patients with scant eruptions, and in one or two, the diagnosis was doubtful.

In discussing the paper of the authors before the Philadelphia Pathological Society, Dr. J. A. Kolmer* reported that he had examined 18 cases of scabies during an outbreak in an institution for children. Among these cases, there was an average eosinophile count of 5.9 per cent. Twenty-five control examinations were made in children of the same age and department and these exhibited an average eosinophile count of 2.73 per cent. Kolmer also found a slight leucocytosis in scabies and concluded that in this disease a mild leucocytosis and eosinophilia are present which bear a relation to the severity of the disease.

As to the significance of eosinophila in scabies, nought can be stated. It is always safer to record observations than to elaborate hypotheses. Our examinations have showed that in the cases under our observation over 80 per cent. have exhibited an increase, sometimes notable, of eosinophiles in the blood. This result is of interest in connection with the occurrence of eosinophilia in persons harboring animal parasites in their intestines.

In "Grain Itch," a disease in which the causative animal parasite perambulates upon the skin and punctures it, but does not burrow, a mild though rather constant eosinophilia is found. Dr. J. A. Kolmer examined for one of the writers (Schamberg) the blood of twenty patients suffering from this disease, who were interned in a hospital. The eosinophile counts varied from .68 to 10 per cent. The first examination, made at about the height of the eruptive disturbance, showed an average of 4.9 per cent. of eosinophiles. While this is not above the maximum physiological limit, yet it would appear that the eosinophilia was pathological, for an examination made four days later, when the eruption, in most of the patients was subsiding or had disappeared, showed a general lessening of the eosinophiles which then averaged but 2.5 per cent.

In speaking of eosinophilia in skin diseases, Ewing (*Clinical Pathology of the Blood*) says, "Various cutaneous lesions have furnished some of the most marked and interesting examples of eosinophilia. It has been shown by Canon and verified by Zappert that the eosinophiles are affected, not so much by special forms of cutaneous lesions, as by the extent, intensity and lack of healing tendency of the lesions. Among the diseases showing high eosinophilia may be men-

**Proc. Philadelphia Path. Soc.,* February, 1911.

tioned pemphigus, eczema, scleroderma, psoriasis, pellagra, lupus, and if widespread, urticaria."

Herbert French (*Guy's Hospital Reports*, 1904, p. 81), after a study of the blood of 90 patients suffering from various skin diseases and after reviewing the earlier researches on this subject, dissents from the usually accepted statement that eosinophilia is common in various acute and chronic cutaneous disorders.

French, among 90 patients with skin diseases found eosinophilia 13 times; in only 4 cases was the eosinophilia marked. No case of eosinophilia was found among patients suffering from:

Acne rosacea.
Addison's disease.
Alopecia areata.
Erythema simplex.
Erythema nodosum.
Herpes labialis.
Herpes zoster.
Impetigo contagiosa.
Lupus erythematosus.
Lupus vulgaris.
Molluscum contagiosum.
Pityriasis sicca.
Scleroderma.
Congenital syphilis.
Tinea tonsurans.
Tinea versicolor.
Urticaria.
Veldt sores.

We have thought it worth while to collect and tabulate the published records, accessible to us, of blood counts in diseases of the skin, in order to determine, as far as possible, the dermatoses in which eosinophilia occurs and the intensity of this phenomenon in these various morbid conditions.

The percentages of eosinophilia given in the following table have only a limited evidential value, for too few cases of the several cutaneous disorders with blood counts have been recorded. Counts of at least fifty or a hundred cases of a given disease are necessary to give one an adequate idea of the eosinophile content of the blood. Furthermore, in some instances, we have reason to believe that the eosinophile count was published because in an isolated case it was sufficiently large to warrant recording it. It must not be forgotten that a high eosinophilia in an individual case may be due to an undiscovered intestinal parasite. The tabulated figures must, therefore, be accepted with reservations.

TABLE NO. 2.

REPORTS OF EOSINOPHILIA IN THE LITERATURE.

Disease.	No. of cases reported.	Average Eosinophilia. Per c.	High count. Per c.	Low count. Per c.
Acne, including rosacea.	5	0.88	1.3	0.0
Addison's disease.	2	5.4	8.7	2.1
Alopecia areata.	2	2.4	3.7	1.0
Bullous dermatitis.	2	16.7	33.5	0.0
Burn of face.	2	1.75	2.75	0.76
Dermatitis herpetiformis.	24	16.18	....	....
Dermatitis coccidioides.	1	18.65	7.72	3
Eczema.	29	4.75	24.8	0.72
Epidermolysis bullosa.	1	1.2	....	....
Erythema, acute diffuse.	1	4.3	....	....
Erythema multiforme.	9	3.27	4.75	0.5
Herpes zoster	6	2.1	2.70	1.2
Impetigo.	4	1.72	2.6	0.0
Impetigo herpetiformis.	1	2.0	....	....
Leukæmia (myeloid, with infiltration).	1	2.00	....	....
Lichen planus.	4	2.52	6.6	0.0
Lupus erythematosus.	5	1.6	2.6	0.7
Lupus vulgaris.	10	3.82	12.24	1.2
Molloscum contagiosum.	1	3.2	....	....
Mycosis fungoides.	40	8.67	48.5	0.0
Pediculosis capitis.	1	0.1	....	....
Pediculosis corporis.	1	0.0	....	....
Pityriasis sicca.	1	1.1	....	....
Psoriasis.	25	4.05	18.8	0.0
Psoriasis.	12	3.0	....	....
Pemphigus vulgaris et foliaceus.	24	12.57	50	0.0
Pemphigus vegetans.	6	15.9	28	1.25
Purpura (with leukæmia).	1	3.25	....	....
Scabies.	47	7.0	19	0.0
"	18	5.79	....	....
"	6	1.73	6.6	0.1
Scleroderma.	4	5.72	9.47	1.2
Syphilis.	15	2.99	10.0	0.3
Tinea tonsurans.	9	2.9	4.5	0.6
Tinea versicolor.	1	1.6	....	....
Tuberculide (acneiform).	1	1.66	....	....
Telangiectases, bilateral.	1	0.0	....	....
Urticaria.	6	2.55	7.0	0.6
Xanthoma diabeticorum.	1	12.4	....	....
Veldt sores.	1	2.4	....	....

It will be noted that only in nine diseases were we able to find records of over ten published cases. The diseases in which an increase of eosinophiles can be demonstrated with a fair degree of constancy are dermatitis herpetiformis, bullous dermatitis, pemphigus (including pemphigus vulgaris, pemphigus foliaceus and pemphigus vege-

tans), and scabies. The average eosinophilia in scabies is considerably less than in the bullous diseases. In mycosis fungoides, eosinophilia of rather high grade is found in about 45 per cent. of the cases. In a single case each of xanthoma diabeticorum and dermatitis coccidioides there was a marked eosinophilia, but no conclusions can be drawn from isolated cases.

It is interesting to note that while chronic and extensive cases of eczema may now and then give rise to a high eosinophilia, yet the average of 29 cases of eczema, including a number of widespread eruptions, was 4.75 per cent. We have examined the blood of several extensive cases of eczema and have found a very low eosinophile content. In psoriasis, two series of 25 and 12 cases gave counts of 4 and 3 per cent. respectively. It would appear, therefore, that the dictum of Canon that eosinophilia is largely proportionate to the extent, intensity and chronicity of the skin involvement rather than to any special character of the dermatosis, requires modification. Leredde holds that dermatitis herpetiformis and the various forms of pemphigus are distinguished not only by a hæmic eosinophilia but also by an enormous outpouring of these cells into the cutaneous lesions.

It is interesting to observe in some of the reported cases of bullous eruptions, that there is a high eosinophilia about the time of a fresh outbreak, while during quiescence of the process, the eosinophiles may be normal in number.

Eosinophilia is common in bronchitic asthma and in various animal parasitic invasions of the intestinal tract. It is a matter of hæmatological importance that the cutaneous disorders in which it occurs should be ascertained. This can only be done by examinations of the blood of large numbers of cases, and it is hoped that such work will be carried out.

The significance of eosinophilia is but poorly understood. It is believed by some that a toxic substance in the blood exerts a chemotactic influence upon the eosinophiles in the bone marrow and attracts them into the blood. Others believe that such a substance may stimulate the formation of eosinophiles. When the cause of eosinophilia is definitely established, the knowledge thus acquired may throw a much desired light upon the nature of some of the cutaneous diseases in which it occurs.

TABLE NO. 3.

Reported Blood Counts in Skin Diseases.

Zappert (*Ztschr. f. klin. Med.*, 1893, xxiii, pp. 227-308), has made the most extensive study of eosinophilia in normal and diseased conditions of all kinds, of any writer:

Case.	Skin Disease.	R. B. C.	W. B. C.	Eosin.
1	Pemphigus.	3,952,000	5,300	33.02%
2	"	3,940,000	10,600	14.15%
3	"	4,120,000	16,400	29.28%
	The above were widespread cases.			
4	"	4,080,000	7,200	3% during conval.
5	"	3,570,000	5,800	1.64% first attack
6	"	2,960,000	4,590	5.95%
7	Eczema universalis.	4,208,000	8,650	9.75%
8	" "	3,408,000	6,860	5.66%
9	" "	5,200,000	7,860	4.07%
10	Eczema mammæ.	3,784,000	7,500	1.73%
11	Eczema capitis et nuchæ.	4,297,000	6,300	1.18%
12	Eczema antibrachii (extensive moist eczema).	4,180,000	20,660	0.72%
13	Urticaria chronica.	4,200,000	8,600	2.04%
14	Lichen ruber planus.	4,800,000	5,930	3.28%
15	Psoriasis.	4,500,000	8,600	9.88%
16	"	.....	9,900	5.23%
17	Scleroderma.	4,070,000	16,690	9.47%
18	"	3,744,000	8,600	4.51%
19	" (hands only).	4,176,000	9,000	7.71%
20	Herpes zoster.	3,572,000	4,200	2.62%
21	" "	.....	5,920	2.70%
22	Acne vulgaris.	4,320,000	11,500	1.20%
23	Lupus of leg.	4,000,000	22,373	1.20%
24	" of face.	3,840,000	7,000	2.37%
25	" of leg.	4,350,000	9,450	7.36%
26	" of face.	3,224,000	9,300	12.24%
27	" of hand.	4,144,000	10,500	1.24%
28	" of face.	3,920,000	9,120	2.19%
29	" of "	4,000,000	6,400	2.03%
30	" of "	4,050,000	7,500	5.07%
31	" of nose.	4,700,000	9,600	4.27%
32	" of "	4,080,000	8,930	1.23%
33	Burn of face.	4,030,000	8,000	2.75%
34	" of "	4,224,000	10,600	0.76%
35	Salol erythema.	4,800,000	4,660	2.57%
36	Erythema multiforme.	.....	5,050	4.75%
37	" "	4,080,000	9,750	4.27%
38	" "	4,328,000	2,300	1.93%

TABLE NO. 4.

REPORTED BLOOD COUNTS IN SYPHILIS (ZAPPERT).

Case.	Skin Disease.	R. B. C.	W. B. C.	Eosin.
	Syphilis.			
1	Initial sclerosis.	4,292,000	5,700	4.91
2	Fresh exanthem.	4,100,000	6,100	0.97%
3	" "	4,384,000	6,000	4. %
4	" "	4,530,000	5,700	1.93%
5	" "	4,300,000	5,900	1.88%
6	" "	4,344,000	6,200	3.13%
7	Lues ulcerosa.	3,200,000	6,000	3.38%
8	" "	4,500,000	7,300	3.01%

TABLE NO. 5.

EOSINOPHILIA IN SKIN DISEASES. HERBERT FRENCH.

Guy's Hospital Reports, 1904, lviii, p. 81

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
		Acne rosacea.						
1	42	Very extensive on nose, cheeks, forehead. Duration, 16 years.	Dyspepsia.	38	6.1	55	0.9	1,042
2	27	Very extensive across nose and cheeks. Duration, 2 years.	Dyspepsia.	28	7.0	64	1.0	1,076
		Addison's disease.						
3	26		None.	42	3.9	52	2.1	1,000
		Alopecia areata.						
4	31	About 1-3 of scalp bare. Islands in beard. Duration, 2 years.	None.	48	18.0	33	1.0	1,034
5	15	Five areas of scalp bare. Duration, 1 year.	None.	22	7.3	67	3.7	1,085
		Application dermatitis.						
6	32	Very acute and extensive. Duration, 9 days.	None.	16	4.2	74	5.8	1,000
		Dermatitis herpetiformis, or hydroa gestationis.						

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
7	41	Very extensive. Seventh attack, with successive pregnancies.	Pregnant three months.	11	4.5	71	13.5	1,022
		Eczema.						
8	51	All over except back. Duration, 9 months.	Gout.	29	9.2	61	0.8	1,040
9	44	Acute and extensive. Duration, 18 months.	None.	32	10.8	55	2.2	1,038
10	21	Seborrhœic dermatitis. Very bad for 10 days.	None.	32	3.8	62	2.2	1,041
11	19	Face and both forearms. Present only a few days.	None.	38	4.7	55	2.3	1,070
12	35	Legs, abdomen and arms. Duration, 14 years.	None.	39	1.7	57	2.3	1,073
13	35	Very acute; on limbs, abdomen, head and neck. Present 6 days.	None.	21	7.0	69	3.0	1,025
14	36	Face, arms and legs. Duration, 2 months.	None.	21	4.4	71	3.6	1,016
15	16	Axilla and front of chest; acute. Duration, 1 week.	None.	29	4.9	62	4.1	1,076
16	40	Scrotum, perineum and flank; acute.	Syphilitic lardaceous disease. .	26	4.8	65	4.2	1,073
17	22	On buttocks and thighs. Duration, 1 month.	None.	24	4.0	67	5.0	1,057
18	15	Legs only. Duration, 6 weeks.	None.	31	4.0	59	6.0	1,083
19	32	Very extensive indeed, all over.	Acute colitis ...	11	8.4	74	6.6	1,000
20	55	Legs, arms, body, face. Duration, 12 weeks.	None.	33	10.9	46	10.1	1,055
		Erythema; acute diffuse.						
21	26	Chest, back, arms, thighs. Acute attacks for last 3 days.	Tachycardia, later typical Addison's disease developed. ...	34	8.7	53	4.3	1,000

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
		Erythema nodosum.						
22	22	Each leg. Duration, 4 days.	Dyspepsia.	32	14.6	52	1.4	1,020
		Herpes facialis et labialis.						
23	14	Very extensive. Herpes zoster.	None.	34	5.5	58	2.5	1,047
24	14	Two large patches along 11th dorsal nerve.	None.	29	6.8	63	1.2	1,039
25	41	Broad band along 5th dorsal nerve. Present 1 week.	None.	42	14.4	42	1.6	1,037
26	24	Few vesicles along 7th dorsal nerve. Present 5 days.	None.	59	7.0	32	2.0	1,034
		Impetigo.						
27	7	Bad on face. Two weeks' duration.	None.	45	5.0	50	0.0	1,123
28	8	Extensive on face and scalp. Present 3 weeks.	None.	32	8.0	58	2.0	1,059
29	9	Dozen blebs on face. Duration, 1 day.	None.	23	4.7	70	2.3	1,069
30	12	Extensive on face. Duration, 2 days.	None.	37	5.4	55	2.6	1,063
		Lichen planus.						
31	49	Arms, legs, abdomen, back. Duration, 2 months.	None.	35	5.4	53	6.6	1,097
32	28	Elbows to wrist, abdomen and legs. Duration, 5 years.	None.	31	2.8	66	0.2	1,008
		Lupus erythematosus.						
33	36	Across nose, in front of ear. Duration, 5 years.	None.	33	10.3	56	0.7	1,000
34	27	Very widespread. Duration, 6 years.	None.	46	6.4	46	1.6	813
35	19	All over right cheek. Duration 14 years.		37	4.5	57	1.5	1,049

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
36	16	Both cheeks and forehead. Duration, 7 years.		16	6.3	76	1.7	1,021
37	13	Right cheek. Duration, 7 years.	None.	45	5.4	47	2.6	1,122
		Molluscum contagiosum.						
38	6	Many excrescences on face only. Present 1 year.	None.	29	3.8	64	3.2	1,047
		Pityriasis sicca.						
39	16	Patches on cheeks. Fortnight old.	None.	37	6.9	55	1.1	1,000
		Psoriasis.						
40	17	Legs, thighs, elbows.	None.	43	4.7	52	0.3	1,047
41	60	Scalp, knees, elbows. Duration, 18 months.	None.	39	3.6	52	0.4	1,067
42	28	Very extensive. Duration, 13 years.	Old renal calculus.	23	5.5	71	0.5	1,105
43	40	Limbs, trunk, neck and head. Duration, many years.	Subacute rheumatism.	40	6.5	53	0.5	1,025
44	7	Body, arms and legs. Present attack 3 weeks.	None.	31	5.1	63	0.9	1,087
45	4	Body, limbs and head. Duration, 2 months.	None.	34	7.7	57	1.3	1,036
46	28	Simply smothered all over; present attack 3 months.	None.	34	2.7	62	1.3	1,043
47	70	Very extensive. Duration, 2 years.	None.	37	7.4	54	1.6	1,079
48	4	Same patient as No. 45, after one week's treatment. A little better.	None.	40	3.1	55	1.9	1,106
49	15	Knees, arms, scalp. Duration, some months.	None.	37	4.1	57	1.9	1,046
50	53	Abdomen, legs, arms. Duration, 6 years.	None.	51	9.8	37	2.2	1,169

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
51	14	Extensive on arms and legs. Duration, 6 months.	None.	21	5.7	71	2.3	1,050
52	55	Elbows, knees and soles. Duration, 6 years.	None.	36	9.4	52	2.6	1,116
53	30	Legs and knees. Duration, 4 months.	None.	38	6.8	52	3.2	1,026
54	56	Elbows and knees. Duration, 25 years.	Dyspepsia.	33	3.0	60	4.0	1,165
55	18	Elbows, arms, hands, knees, thighs.	None.	42	6.6	47	4.4	1,097
56	40	Arms, legs, trunk, back; present 30 years.	Traumatic paresis of arm.	30	4.3	61	4.7	1,000
57	59	All over, more or less; present 29 years.	None.	33	7.5	54	5.5	844
58	40	Legs, arms, trunk. Duration, 27 years.	None.	31	9.1	54	5.9	1,697
59	34	Hands, arms, neck. Duration, 27 years.	None.	37	6.4	50	6.6	1,061
		Scabies.						
60	31	Hands and forearms; present 10 days.	None.	27	7.9	65	0.1	1,048
61	9	Hands, forearms, feet, ankles; present, fortnight.	None.	16	3.8	80	0.2	1,026
62	13	Extensive. Duration, 1 week.	None.	36	24.6	38	1.4	1,014
63	45	Ordinary case; present 2 weeks.	None.	29	7.9	65	0.1	1,005
64	3	Feet and ankles; present 7 weeks.	Otorrhoea.	43	4.0	51	2.0	1,054
65	10	Both hands. Duration, 3 weeks. Scleroderma and leucomelanoderma.	None.	28	4.4	70	6.6	1,110
66	36	Hands, forearms, face, abdomen, back and thighs. Present 10 years.	Raynaud's disease.	28	4.8	66	1.2	1,000

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarsely granular eosinophiles.	Total leucocytes counted.
		Syphilis congenital.						
67	9-12	Rash over limbs and trunk; present 6 weeks.	None.	82	6.7	11	0.3	1,230
68	3-12	Extensive all over except abdomen; present soon after birth.	None.	52	5.4	41	1.6	1,030
		Syphilis secondary.						
69	24	All over body; noticed 14 days ago.	None.	36	1.1	62	0.9	1,039
70	16	All over legs; condylomata vulvæ.	Few burrows of scabies.	25	5.9	68	1.1	1,061
71	25	Rash all over but legs. Duration, 16 months.	None.	23	8.2	67	1.8	1,000
72	20	Very extensive. Duration, 3 months.	None.	21	7.5	65	6.5	1,125
		Syphilides tertiary.						
73	45	Extensive on hands, arms, face, back, legs.	None.	11	5.0	74	10.0	1,087
		Tinea tonsurans.						
74	11	Patch in front of ear; present some weeks.	None.	30	10.4	59	0.6	1,092
75	6	Patch covering 1-3 of head. Duration, fortnight.	None.	28	8.8	62	1.2	1,067
76	7	Patches covering ¼ of scalp. Duration, 5 weeks.	None.	49	6.7	43	1.3	1,056
77	5	Several patches; present 2 months.	None.	39	5.3	54	1.7	1,048
78	10	Several patches. Duration, 6 weeks.	None.	36	6.2	56	1.8	1,017
79	7	Extensive. Duration, 2 months.	None.	32	18.1	48	1.9	1,017
80	11	Extensive. Duration, 5 weeks.	None.	38	10.6	48	3.4	1,035

TABLE NO. 5. *Continued.*

Case No.	Age.	Notes on skin lesion.	Other illness.	Small lymphocytes.	Large lymphocytes.	Polymorphonuclears.	Coarse-granular eosinophiles.	Total leucocytes counted.
81	5	Several large patches. Duration, 2 months.	None.	40	11.5	45	3.5	1,161
82	7	Extensive. Duration, 6 weeks.	None.	30	5.5	60	4.5	1,053
		Tinea versicolor.						
83	27	Chest and abdomen. Many years.	None.	48	6.4	44	1.6	1,048
		Urticaria.						
84	7	All over body.	None.	43	3.4	53	0.6	1,009
85	69	Bad at night; present 1 week.	None.	40	7.8	51	1.2	1,000
86	1	All over body.	None.	59	7.1	32	1.9	1,048
87	27	Extensive.	None.	46	4.4	47	2.6	1,035
		Veldt sores.						
88	40	Extensive on legs and thighs.	None.	22	6.6	68	2.4	1,049
		Xanthoma diabeticorum.						
89	20	Extensive. Duration, 3 months.		42	3.6	42	12.4	1,078
		Diabetes mellitus without skin lesions.						
90	45	Duration more than year.	None.	32	8.6	58	1.4	1,234

TABLE NO. 6.

MYCOSIS FUNGOIDES.

Author.	Poly.	Eosin.	Large monos.	Small monos.	Trans.	Mastz.	W.B.C.
	Per c.	Per c.	Per c.	Per c.	Per c.	Per c.	
	50.2	9.8	4.4	32.0	3.0	0.6	
Strobel and Hazen.	74.8	6.6	1.6	14.0	2.6	0.4	9,700
	52.5	15.0	10.5	20.5	1.5	1.5	11,000
Orton and Locke.	....	9.2	....	....	...	...	.....
			44.0				18,750
Galloway and MacLeod. ...	69.0	1.6	5.0	26.0	...	...	8,000
Spiethoff.	....	8.0	....	....	...	...	.....

TABLE NO. 6. *Continued.*

Author.	Poly.	Eosin.	Large monos.	Small monos.	Trans.	Mastz.	W.B.C.
	Per c.	Per c.	Per c.	Per c.	Per c.	Per c.	
White and Burns.	60.0	2.5	8.0	29.0	...	...	16,000
White.	63.0	7.9	....	30.0	...	...	13,400
Giovanni.	69.0	12.0	....	29.0	...	...	15,240
Heller.	72.6	3.0	....	24.4	...	...	7,000
	63.6	2.7	....	33.7	...	...	2,470
	72.3	2.8	12.0	8.2	4.4	...	1,200
Sequeira.	78.0	0.0	6.5	14.5	0.0	1.0	10,000
	68.8	2.6	16.2	12.2	0.0	0.2	9,400
Lenoble.	53.0	12.0	15.0	17.0	...	0.5	8,000
Gaucher and Brin.	59.4	22.5	17.8	0.3	...	...	9,600
Kaposi.	....	....	....	....	...	...	125,000
Beurmann, de, and Verdun.	71.0	3.5	23.0	2.5	...	...	8,000
	53.0	8.0	25.0	14.0	...	...	6,000
Leredde.	....	27.0	....	50.0	...	...	17,000
	....	37.0	....	....	...	...	112,000
	68.0	5.0	4.0	24.0	...	0.5	9,200
	67.0	1.0	4.0	29-38.6	...	...	15,800
Zumbusch, von.	68.0	1.0	....	30.0	...	...	10,000
	64.0	....	....	17.0	...	...	15,300
	23.0	48.5	....	28.6	...	1.5	32,800
Pautrier and Fage.	75.0	1.0	16.0	7.0	...	...	4,800
Jambon and Rimaud.	34.6	44.6	6.0	14.6	...	...	.....
	44.5	38.7	6.4	10.4	...	...	.....
	60.0	1-2.0	25.0	14.0	...	...	.....
Hodara.	75.0	7.0	6.0	12.0	...	...	.....
	48.0	6.0	35.0	10.0	...	...	.....
	77.0	2.0	5.0	8.0	7.0	1.0	23,000
Pelagatti.	77.0	1.0	6.0	4.0	9.0	3.0	82,000
	74.0	1.0	6.0	3.0	11.0	4.0	122,500
Danlos.	31.0	37.0	....	32.0	...	...	112,500
Pasini.	....	....	....	....	...	...	100,000
Riecke.	....	....	....	....	...	...	16,000
							9,000
							5,000
Brandweiner.	62.0	4.0	10.0	18.0	...	...	3,200
Leredde and Weil.	66.0	2.0	32.0	....	...	...	19,000
Abraham.	54.7	7.3	....	37.9	...	...	13,000
Krassnoglasow.	44.0	40.0	5.0	9.0	1.0	1.0	23,000
Roman.	68.5	0.5	17.0	12.0	2.0	...	9,500
Jamieson.	69.6	11.5	11.5	6.5	...	...	.....

TABLE NO. 7.

Schamberg and Strickler's Cases.

Case.	Notes on skin lesion.	Poly. Per c.	Lymp. Per c.	Mono. Per c.	Eosin. Per c.	Trans. Per c.
1.	Generalized thickened erythematous eczema; duration, 9 weeks.	70	25	3	1	1
2.	Acne and comedones; marked case; duration, 3 years.	72	26	2	0	0
3.	Generalized eczema; 3 months.	59	40	0	1	0
4.	Lichen planus, general; duration, 3 months.	71	28	0	0	1
5.	Pediculosis corporis, moderate.	80.5	18.5	5	0	5
6.	Pemphigus vegetans, mouth, axillæ and groins.	60	20	2	18	0
7.	Severe eczema of arms and hands; duration, 6 months.	50	40	5	2	3
8.	Urticaria papulosa; duration, 9 months.	70	20	3	7	0
9.	Erythema multiforme; hands and face.	72	22	2	4	0
10.	Dermatitis, face and neck; present 2 days.	74	24	1	1	0
11.	Pediculosis capitis.	75	22	1	1	1
12.	Generalized erythematous eczema; duration, 9 weeks.	55	29	3	2	1
13.	Psoriasis.	75	22	2	1	0

TABLE NO. 8.

Dermatitis Herpetiformis and Dermatitis Coccidioides.

Author.	Disease.	Poly. Per c.	Lymp. Per c.	Mono. Per c.	Eosin. Per c.	Trans. Per c.	Mast cells. Per c.
Leredde.	Dermatitis herpetiformis.	46.30	16.27	21.87	7.72	....	...
Darier.	" "	52.0	.....	.....	15.0	....	...
Cabot.	" "	47	25	8	19	....	...
		40	42.4	8.6	8.2	....	...
		34	43	8	15	....	...
Brown.	" "	27.25	30.16	.....	34.86	....	...
Galloway.	" "	63.6	20.8	6.2	5.2	4.2	...
Knowles.	" "	23.7	36.1	4.6	33.0	2.6	...
Bowen.	Dermatitis herpetiformis in children.	75	29	.....	15	....	...
		60	37	.....	3	....	...
		50	43.5	.....	6.5	....	...
		51.57	44.5	.....	8.1	....	...
		60	19.5	.....	20.5	....	...
		49.5	45.5	.....	4.5	....	...
		64	31	.....	5	....	...
Bushnell and Williams.	Dermatitis herpetiformis.	16.2	12.63	.....	71.7	....	...
Meynet and Pehu.	Dermatitis herpetiformis in children.	52	21.6	10.3	16	....	...
Barrois.	Dermatitis herpetiformis.	....	....	....	12	....	...
Roussel.	" "	....	....	....	30	....	...
Little, Graham.	" "	....	....	....	4	....	...
Meynet and Pehu.					13 & 18 (2 counts)		
Montgomery and Morrow.	Dermatitis coccidioides.	51.8	8.0	....	13.65	....	...

TABLE NO. 9.

LEUCOCYTE COUNTS FROM THE LITERATURE.

Author.	Notes on skin lesion.	Poly. Per c.	Lymp. Per c.	Mono. Per c.	Eosin. Per c.	Trans. Per c.	Mast cells. Per c.
Gardiner.	Dermatitis herpetiformis in children.	65.76	26.56	.....	7.36	....	...
		42.96	49.03	.....	7	....	...
		61.66	27.83	.....	10.5	....	...
		50.5	38.4	.....	10.9	....	...
Pringle.	Bullous disease.	67.3	54.0	5.6	0.0	....	...
Pollitzer.	Bullous dermatitis.	45	17	4.5	33.5	....	...
Morris, Malcolm and Dore.	Extensive acne with scars and keloid.						
Pringle.	Acneiform tuberculide.	62.3	28	.....	1.6	5.8	1.8
Winfield.	Bullous erythema.	72.5	14.4	11.0	1.5	....	...
Fox, Colcott.	Bilateral telangiectases of trunk.	49	51	20	No mention of eosinophiles.		
Cabot.	Acute eczema.	74.7	16.6	5.3	3.4	....	...
Stengel and White.	Eczema.	....	....	.....	7.9	....	...
Brown, R.	Chronic eczema.	....	....	.....	23.1	....	...
Cabot.	Erythema multiforme.	69	30	.....	1	....	...
		75.5	20	.....	4.5	....	...
Hazen.	Erythema multiforme during typhoid fever.	65.9	27.7	.5	0.5	2.9	0.0
Sichel.	Epidermolysis bullosa.	56.4	38	4	1.2	....	...
Sequeira.	Erythroderma with itching and glandular enlargmet.	59	15	.....	21.5	....	...
Jamieson.	Erythrodermic stage of mycosis fungoides.	69.5	11.5	6.5	11.5	....	...
Shattuck.	Lymphatic leukæmia with purpura.	17	76.6	.....	3.37	....	...
Rolleston and Fox.	Myeloid leukæmia with nodular infiltration of skin.	56.75	31.25	.....	2	....	...
Chambers, Graham.	Impetigo herpetiformis.	64	28	5	2	....	...
Sequeira.	Mycosis fungoides.	83	9.5	5	0	....	...
		68.8	12.2	8.2	2.6	....	...
Ravogli.	Pemphigus vegetans.	64	11.5	.....	1.25	....	...
Winfield.	" "	79.56	7.6	.....	5.3	....	...
Fox, Wilfred.	" "	60.5	21.75	3.15	9.1	....	...
Stanziale.	" "	....	.....	....	28	....	...
Bowen.	Pemphigus.	....	.....	....	6	....	...
Audry.	"	....	.....	....	15-24	....	...
Leredde.	Pyodermatitis vegetans.	49	35	....	16	....	...
Canon.	Severe eczema lower half of body.	....	.....	....	5	....	...
Canon.	Universal eczema.	....	.....	....	14.19	....	...
Canon.	Widespread prurigo.	....	.....	....	10.3	....	...
Canon.	Psoriasis.	....	.....	....	25-3.85	....	...
Canon.	"	....	.....	....	4.75-4	....	...
Canon.	"	....	.....	....	10.53-17.10	.	...
Canon.	Addison's disease.	....	.....	....	8.7	.....	...

TABLE NO. 10.

PEMPHIGUS FOLIACEUS. CRANSTON LOW.

Brit. Jour. Dermat., May, 1909, p. 135.

Case.	Red Blood cells.	White blood cells.	Hæmoglobin.	Polymorphonuclears.	Mononucleated leucocytes. Lymphocytes.	Large mononuclears.	Eosin.	Mast. cells.
Nikolski.	Diminished.	Slightly increased.	Diminished.					
Grinew.	4,319,000.	7,700.	67.8%.	78%.	14.7%.	7%.	0.5%.	0.34%.
Senelew.	Diminished.	Slightly increased.	Diminished.	Slightly increased.	Slightly increased.		Diminished.	....
Pellegatti.	.....	.....	....	.....	36%.		1%.	....
Brousse and Bruc.	.....	.....	....	69.5%.	18%.		12.5%.	....
Meynet and Ribollet.	3,500,000.	6,200.	....	40%.	45%.		15%.	....
Kanitz.	.....	800.	....		Almost entirely large mononucleated leucocytes increased.		Absent.	....
Leredde, two different cases.	3,360,000.	4,200 to 10,000.	80%.	Diminished.	.....		20-27%.	.....
	.....	.....	.....	53.8%.	35.4%.		8.8%.	.....
Low, Cranston.								
Case 1.	5,075,000.	10,030.	90%.	56.8%.	20.4%.	7.5%.	7.8%.	.....
Case 2.	.....	10,400.	.....	59.6%.	22.4%.	5.5%.	11.2%.	0.3%.
Case 3.	.....	.....	.....	45 %.	1 %.	3 %.	50 %.	.....

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46. Winfield. *Ibid.,* 1907, p. 17; 1908, p. 566.

DISCUSSION.

Dr. Corlett said that at various times he had seen, at the Lakeside Hospital, epidemics of what they regarded as scarlet fever. Some of these had been reported in the *Journal of the American Medical Association.* For several years, the speaker said, he had known eosinophilia to be present to a more or less extent in scarlet fever, early in the course of the disease.

Dr. Engman said he thought Dr. Schamberg and Dr. Strickler had undertaken a most valuable piece of work in connection with eosinophilia in various skin diseases and in bringing together the literature on the subject. Of course, we should not lose sight of the fact that blood counts were very indefinite, depending on the time of the day, their relation to diet, etc. For this reason, our conclusions must be based on a large number of cases and the counts must be taken at a certain hour and under certain conditions to be of value.

A MICROCOCCUS WITH UNUSUAL CHARACTERISTICS AS A FACTOR IN A RESISTANT DERMATOSIS RESEMBLING ACNE VULGARIS.*†

By Henry Rockwell Varney, M.D., and L. T. Clark, B.S., Detroit.

THE bacterial flora of the normal skin and of lesions that appear in and upon the skin in diseased conditions, is widely varied and comprises many varieties of the different types of microörganisms. That many of the bacteria found upon the normal skin and in lesions are unimportant and absolutely harmless has long been a recognized fact. Consequently, in undertaking a study of the ætiology of skin infections, a review of the many types, genera, species, varieties and strains which may be isolated is necessary. Many seemingly harmless ones may infest lesions from other causes, or may cause lesions themselves, as a lowered resistance allows. Cultures obtained from the lesions of skin infections, therefore, reveal a number of kinds of microörganisms which may be either ætiological or accidental in character.

Among the pyogenic organisms which were frequently isolated and were thought to be the primary cause of a common group of skin infections, our attention was attracted to a micrococcus of unusual morphological and cultural characteristics. Cultures of this organism isolated from five cases of rebellious skin conditions of long duration were studied. From the clinical pictures and data, these conditions would usually be classified as acne vulgaris, were it not for the variations in the causative organism and the especially resistant nature of the lesions.

The object of this paper is to call attention to the variations existing between the clinical aspects of these cases and those of the ordinary forms of acne vulgaris and to show some differences, both morphologically and culturally, which exist between the micrococcus in question and those organisms usually classified as Staphylococcus pyogenes albus. We call attention to these variations, with a keen appreciation that marked deviations may occur with many of the common infectious microörganisms as a result of changes in environment and conditions.

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

†The laboratory work represented in this study was accomplished through the courtesies of the Research Laboratories of Parke, Davis & Co.

The usual types found in lesions of acne vulgaris are the Staphylococcus pyogenes albus, occasionally the aureus and citreus and rarely the Bacillus pyocyaneous and Bacillus acnes. The Staphylococcus pyogenes albus isolated from these conditions appears as a distinctly white growth on agar, turns milk acid with slow coagulation, is very weakly pathogenic and forms a basis for a polyvalent stock bacterial vaccine which is effective in the treatment of the common type of the disease.

Several cases were observed which would not respond to long continued treatment with the polyvalent stock vaccine made from several cultures of Staphylococcus pyogenes albus. These cases have been under observation from two to four years, and present lesions differing in character from those found in the usual type of acne vulgaris.

Smears made from cultures isolated from these cases reveal organisms more closely resembling diplococci than staphylococci in morphology. They take the ordinary stains more readily and appear more evenly distributed in the smear, being arranged in short chains, tetrads and small clumps, considerably unlike the usual grouping of the staphylococci. Culturally, the organism resembles the Staphylococcus pyogenes albus very closely, presenting a slightly whiter colony on nutrient agar, but growing somewhat less luxuriantly. It produces no visible change in plain milk, but causes litmus milk to slowly turn alkaline. This alkalinity, however, is so slight that it is noticeable only after five to eight days growth at room temperature. This micrococcus does not ferment any of the sugars nor produce indol. The agglutination reaction with sera produced by injecting rabbits with increasing doses of, first, killed and, finally, live cultures of the organism indicates, more than any other test to which we have submitted this organism, that it differs quite materially from any of the strains of Staphylococcus pyogenes albus we have studied in comparison.

The average agglutinin titre of sera produced by injecting rabbits with Staphylococcus pyogenes albus is 1 in 1,500, the range being from 1 in 100 with culture K, to 1 in 4,000 with culture B.

With the micrococcus, we obtain, on an average, an agglutinin titre of 1 in 2,100 from sera produced in exactly the same manner, the lowest titre being 1 in 100 and the highest was 1 in 4,000 by serum H with culture H. Cross agglutinations gave much higher reactions with sera and organisms of the opposite classification, as the accompanying chart shows.

The first four sera agglutinate their corresponding four cultures very uniformly, while they do not agglutinate the micrococcus scarcely at all; and again the last three anti-sera, namely, M, H, and W, do not agglutinate the four staphylococcic cultures, while they do agglutinate very uniformly their own cultures and cultures in the same class. The chart represents 49 combinations between 7 cultures and the 7 anti-sera.

AGGLUTINATION REACTIONS

Cultures	Anti-Staphylococcic Rabbit Sera			Anti-Micrococcic Rabbit Sera			
Staph. p. albus.	"D.B."	"D."	"C."	"K."	"M."	"H."	"W."
" " "D.B."	4,000	2,000	3,000	100	100	0	0
" " "D."	3,000	2,000	2,000	3,000	0	0	0
" " "C."	1,000	3,000	2,000	100	0	100	0
" " "K."	100	0	100	100	0	0	0
Micrococcus "M."	100	100	100	100	2,000	3,000	1,000
" " "H."	100	100	0	0	4,000	2,000	2,000
" " "W."	100	100	100	0	2,000	3,000	100

Forty-nine combinations are represented in the above chart. Seven are those of the sera on cultures of their origin; forty-two are cross agglutinations of the sera on cultures of like and opposite strains.

The chart also shows that the cultures of the micrococcus are homologous with sera produced by strains of organisms from the same class only, and heterogeneous when sera from strains of Staphylococcus pyogenes albus are used. These results would seem to indicate that in this micrococcus we have an organism which differs in the ability to produce an anti-serum of high agglutinin titre and that its anti-serum is not specific to cultures of Staphylococcus pyogenes albus. Sera produced with different strains of Staphylococcus pyogenes albus are somewhat lower in agglutinin, both to the cultures of their origin and to the cultures of the micrococcus.

A limited number of attempts were made to produce a satisfactory antigen, by means of which we hoped to establish the relation between this organism and the Staphylococcus pyogenes albus by means of the complement fixation test. The unsatisfactory tests made, indicate that it may be used with the micrococcus, but not with the Staphylococcus pyogenes albus. Further work will be carried out to determine the value of such a test in aiding the classification of the particular organism with which we are dealing, using an antigen prepared according to the method of Swift and Thro.*

*Swift and Thro. *Arch. Int. Med.*, Jan. 15, 1911, vii, No. 1.

The cultures upon which the above tests have been carried out were isolated and classified in the laboratory, the work being uninfluenced by clinical observations. From several of the cases the micrococcus was isolated at different times. In one particular case it was isolated from a rebellious lesion at the same time a typical Staphylococcus pyogenes albus was isolated from another lesion on the face. The lesion from which the staphylococcus was isolated later proved to be of short duration.

The five cases from which this micrococcus was isolated possessed some clinical features which were common to all. They were uniformly of unusually long duration, all existing over eight years and one twenty-four years; all were beyond the age of the acne vulgaris patient. The areas involved are those most susceptible to acne vulgaris, commonly extending upon the back, face, and arms, unaccompanied by comedones. The lesions begin deep in the skin structure, are very slow in development, markedly sensitive upon pressure, unusually firm, with the ordinary coloring of a localized skin infection. There is no tendency to rupture, the contents of the lesion being exceedingly small in amount, and the destruction of the true skin is so slight that there is no pitting in the old area of the lesion. The disease in all five cases has been most rebellious to all forms of treatment except stock suspensions of the micrococcus above described.

In two of the cases a series of X-ray exposures were administered, with recurrence in both of the areas which had been thoroughly treated; this being quite an uncommon outcome from radiotherapeutic treatment in the average acne vulgaris patient. Four of the cases received inoculations of combined staphylococcus and acne bacillus suspensions, with only slight transitory improvement.

Case 1 made a complete and rapid recovery after four inoculations with a suspension made from his own organism; pronounced reactions followed comparatively small doses. Cases 2 and 3 recovered with inoculations of suspensions of the organism from Case 1. A slight recurrence appeared in Case 2, which promptly responded to the same suspension with but two more inoculations. Cases 4 and 5 showed the same result following inoculations with a suspension made from the combined strains of 1, 2, and 3.

Case Reports.

Case 1. Fred. W., twenty-six years of age, unmarried. Referred by an oculist, who wished to know whether the skin eruption on his back had any connection with an unusual eye condition. For eight years the patient had suffered with a recurrent explosion in the vitreous which clouded the vitreous to a degree that allowed him to go about, but incapacitated him for work. This disease, though rare, is known as uveitis and is believed to be caused by toxines liberated

from general infections such as rheumatism. This explosion in the eye occurred suddenly every two or three weeks and was always accompanied by a fresh outbreak of the lesions upon his back, which were preceded by itching and burning. The first two oculists who saw him made a diagnosis of syphilis and at once placed him on specific treatment, later sending him to Hot Springs. No improvement took place in the eye condition or in the skin. Later, two other well-known oculists saw the condition and were unable to find any syphilitic condition in the eyes. Treatment for syphilis was given periodically for four years. His blood, upon repeated examinations by the Wassermann test, was negative, and during all personal observation no evidence of syphilis was seen. This case was also examined by George Thomas Jackson, and A. P. Biddle. The blood-count, urine, heart, and blood pressure were normal. For eight years the entire back, neck and buttocks and arms to the elbows, were extensively covered with the lesions already described. The lesions were exceedingly tender on pressure and there was also a slight tendency of the eruption to be less severe in mid-summer.

Case 2. Hobart H., thirty-eight years of age, a lawyer by profession, and married. His general health was of the best. The skin condition had existed over seventeen years upon the back and face. Lesions upon the face were few in number, but the recurrences presented a repulsive deformity. Each lesion was noticeable for a period of six to eight weeks. The patient presented much smaller lesions, which were of superficial development and pustular in character. From these lesions the Staphylococcus pyogenes albus was obtained several times, while from the slowly developing nodules, with no tendency to rupture and with but small amount of pus, the micrococcus was isolated several times in pure culture.

Case 3. Fred H., forty-two years of age, a lawyer by profession, and unmarried. The general health was good. Lesions identical with those in Cases 1 and 2 covered the entire back as well as the neck, buttocks and arms. This condition existed continuously for twenty-three years. Many forms of treatment were administered internally and locally without permanent relief. X-ray treatments cleared certain areas for a short time only. Inoculations with stock combined staphylococcus vaccines gave a negative result.

Case 4. Andrew M., thirty-two years of age, a lumberman by occupation, unmarried. The patient always had had a good healthful out-of-door life. The skin trouble had existed on the face and back for fifteen years continuously. No improvement occurred during the summer months. The character of the lesions was clinically the same as Cases 1, 2 and 3 and were slow in development. A series of X-ray treatments failed to prevent a recurrence; a series of inoculations with stock suspensions of combined staphylococcus also resulted negatively.

Case 5. Mrs. Emma K., thirty-seven years of age, a physician's wife. She had several healthy children. There were deep indurated lesions which were confined to the face, being most persistent on the chin; these had persisted continuously for twelve years.

Summary.

We do not propose to draw any conclusions from the results we have obtained from the work described. A summary of our findings, however, indicates the following points:

1. A micrococcus considerably unlike Staphylococcus pyogenes albus may cause lesions in the skin which are like those of acne, but differ in their clinical history and treatment.

2. This micrococcus differs in morphology and in some cultural characteristics from the strains of Staphylococcus pyogenes albus we have studied.

3. Anti-sera produced by the micrococcus agglutinate the cultures of their origin in higher dilutions than do sera from strains of Staphylococcus pyogenes albus. Cross agglutination tests show the agglutinins of these sera to be specific to cultures of the class of their origin.

4. Furthermore, the acne-like lesions in which this organism was found, persist long after the acne age, and while utterly resistant to the usual acne therapy, they have been cured by vaccines made from the organism.

While our experiments in attempting to differentiate between a micrococcus isolated from skin lesions and the more easily recognized common organisms is not decisive, we are convinced that sufficient differences exist to warrant further study.

DISCUSSION.

Dr. Jackson said he had had the pleasure of seeing one of these cases while in Detroit last Spring and it was absolutely unique so far as his experience went.

Dr. Engman said he knew of the work that Drs. Varney and Clark had been doing and had had the opportunity of examining their preparations and it seemed to him that in the micrococcus that had been described in the paper they were probably dealing with a pathological entity. Of course, when we isolated an organism from any skin lesion, it was very difficult to say that it was a specific organism pathognomonic of that particular disease. Still, the work of the authors of this paper was very convincing on account of the serological tests that had been employed and Dr. Engman said he believed that he had seen the type of acne they had described. There were undoubtedly many acneiform lesions that would have to be taken out of the vulgaris group. Acne vulgaris we always associated with comedones, but there were others that must be due to some other specific organism. The speaker said he believed from his own investigations, as well as those of Dr. Gilchrist and others, that the acne bacillus was really the cause of acne vulgaris, but it was very probable that other forms of acne were due to other specific organisms. The staphylococcus was so polymorphic and so greatly influenced by the culture medium, that the speaker said he felt convinced that most of the impetigo eruptions we had in this country were due to this organism. It grew in short chains and readily altered its morphological characteristics. It was a very elastic coccus.

Dr. Schamberg said he thought Dr. Varney and his collaborator were to be commended on the very laborious investigations which formed the basis of their paper. It was easy for one to maintain a skeptical attitude and say the eruption was simply an acne and the organism was simply a micrococcus, but, after all, the history of discoveries in dermatology showed that such an attitude was scarcely warranted and that deeper scientific study and observation would often prove that there were clinical conditions which must be separated from the group in which they had hitherto been classed.

From the cases which Drs. Varney and Clark had reported, from the tests

they had made and particularly in view of the excellent results they had obtained from vaccine therapy, the deduction seemed justifiable that they had found an organism which deserved separate classification. In the present stage of our knowledge, perhaps their work would justify the Scottish verdict of "not proven;" their report should be viewed, as no doubt they meant it to be, as a preliminary one.

THREE UNUSUAL FORMS OF CUTANEOUS TUBERCULOSIS.*

By Howard Fox, M. D., New York.

DURING the past three years I have had the opportunity of treating three unusual cases of cutaneous tuberculosis, each of which has been presented one or more times before dermatological societies. The object of this communication is to make the report of these cases more complete by the addition of illustrations and by giving the result of some animal inoculations. That the clinical diagnosis in the first two of my cases was extremely difficult can be seen from the varying opinions expressed by the dermatologists before whom the patients were presented.

My first case of lupus vulgaris serpiginosus is perhaps of the greatest interest. This was a mulattress who was first seen in November, 1908.

The patient was twenty-two years old, single, a domestic by occupation. Her father and mother had both died of lung trouble. When eleven years old she had suffered from "lumps" in the axillæ, which broke down and discharged for some time. The eruption had first appeared seven years previously upon the upper lip and had gradually spread till the greater part of the face was involved. Coincident with the outbreak of the eruption, the patient also noticed swellings at the side of the neck, which broke down and discharged. The lesions on the knee first appeared four years ago and the one upon the arm a year before. Six months ago the eye had become affected and three months previously the mucous membrane of the nose had become involved. The general health of the patient had been good. With the exception of the upper part of the forehead the entire surface of the face, including the ear and upper part of the neck was affected. The eruption consisted of large, soft tubercles, many of them crusted and scattered about the face without any particular grouping. Upon the neck they formed a sharply defined, wavy, serpiginous border. Between the nodules, the skin showed a moderate degree of scarring, though not of the fibrous deforming variety of ordinary lupus. No apple-jelly nodules were to be seen. Upon the dorsal surface of the right forearm there was a circinate and serpiginous lesion about three inches in diameter. There were also similar serpiginous patches on the knee and leg. There was slight destruction of the

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

cartilage of the tip of the nose, giving it a beak-like appearance. The left eye showed ectropion, conjunctivitis, general opacity of the cornea and two small corneal ulcers. The Wassermann and Noguchi reactions (made after the patient had taken "mixed treatment" for three weeks) were negative. The von Pirquet reaction was strongly positive. The results of a biopsy that had been made from the lesions of the face were inconclusive. The lungs were apparently normal. The urine contained no abnormal ingredients.

The probable diagnosis of lupus vulgaris was based upon the following points: the family history of tuberculosis, the patient's age, the history of suppurating glands, the beak-like appearance of the nose, the positive von Pirquet and the negative Wassermann reactions. In the discussion that followed her presentation before the New York Dermatological Society, a combination of syphilis and lupus was suggested by one of the members, who stated, however, that the "nibbled and atrophic condition of the alæ of the nose was very characteristic of lupus." Another member thought the lesions on the leg due to syphilis, while those on the face "did not seem to be at all specific." Still another thought a combination of the two diseases possible, but "was inclined to believe, however, that all the lesions were the result of one infection." Three of the members considered the case to be one of tuberculosis.

At a presentation of the patient before the Dermatological Section of the Academy of Medicine, November 10, 1908, three of those who took part in the discussion considered the entire process to be syphilitic, one of them believing the disease to have been inherited. One member considered the development too rapid for lupus and another thought that the "preservation of the cartilage of the nose in a case where there was such a general involvement of the skin was against the diagnosis of lupus vulgaris, as also the apparently normal skin in the centre of the lesion on the arm".

Realizing that three weeks of "mixed treatment" was not a conclusive therapeutic test, it was decided at the urgent request of one of the gentlemen present to give the patient injections of colomel followed by the internal administration of potassium iodide. The patient was accordingly admitted to the wards of the Skin and Cancer Hospital (service of Dr. George Henry Fox) and given ten intramuscular injections of calomel, at weekly intervals, in doses varying from a grain to a grain and a half. A month later she was given potassium iodide for six weeks, in increasing doses up to forty grains three times a day. After this vigorous treatment there was a very slight improvement of the lesions of the face and quite a marked improvement of the lesions upon the extremities.

The patient was presented for a second time on April 9, 1909, before the Dermatological Section of the Academy of Medicine and again, three of the members felt that the improvement warranted a diagnosis of syphilis. An entirely opposite view was, however, held by all of us who had observed the patient at the hospital. We felt that a reasonable improvement in lupus, especially the serpiginous form, might be expected from the use of mercury. In our opinion, it was far too slight to warrant a diagnosis of syphilis. The diagnosis of tuberculosis of the lesions of the neck, at least, was finally confirmed by inoculation of guinea pigs kindly made by Dr. Bertha Van H. Anthony, from which cultures of the human type of tubercle bacilli were obtained.

On March 14, 1910, a piece of skin was excised from a lesion upon the neck, finely minced and ground thoroughly in normal salt solution, and inoculated into three guinea pigs. On May 23, one of the pigs was killed and showed slight tuberculous lesions at autopsy. Cultures made from the spleen, inguinal and retro-peritoneal nodes of the pig, on glycerine-egg media, gave the characteristic growth of the human type of the tubercle bacillus. On September 15, three rabbits were injected, intravenously, with material from the glycerine-egg cultures. Two rabbits received 1/100 mg. each and one 1/1000 mg. After fifty days one of the 1/100 mg. rabbits died (having been bled several times for other purposes). This rabbit showed moderate tuberculous lesions of the lungs. The other two rabbits, which were killed sixty-two days (1/1000 mg. rabbit) and seventy-six days (1/100 mg. rabbit) after injection, showed very slight tuberculous lesions of the lungs and kidneys. These findings were in marked contrast to the generalized lesions caused by bovine cultures injected in the same amounts, which always caused the death of the rabbits in about thirty-five days.

My second case of unusual tuberculosis of the skin, was referred by Dr. George T. Jackson to the Skin and Cancer Hospital for treatment, and was presented before the New York Dermatological Society on April 26, 1910, as a case for diagnosis.

The patient was a Swedish woman, a domestic, twenty-eight years of age. She gave no history of tuberculosis and no history of syphilitic infection. As a child she had suffered from swellings at the side of the neck, which had finally disappeared spontaneously. The eruption had first been noticed four years previously. It consisted of about ten groups of lesions upon the inner aspect of the right thigh and knee. Some of these lesions were simply pigmented macules, while others were rather superficial, soft and slightly scaly, split-pea-sized nodules. There was no evidence of ulceration, necrosis or of scratching. Indeed, according to the patient's statement, the eruption had never occasioned

the slightest subjective symptoms. Some of the nodules were dull in color and very suggestive of lupus. There were, however, no typical apple-jelly nodules. Some of the lesions, which were flattened and yellowish-brown in color had, according to the patient's statement, formerly been reddish and elevated. The Wassermann and von Pirquet tests were both negative. The urine showed no abnormal constituents. The lungs were apparently normal.

In the discussion of this case several of those present considered it to be lichen planus; one thought it was syphilis and another suggested that the nodules looked like lupus. The situation of the eruption, a shiny appearance of some of the lesions and the presence of pigmentation, favored the diagnosis of lichen planus. Against this diagnosis was the total absence of itching and the fact that some of the lesions were distinctly nodular in character and not like the papules in lichen planus. The patient was later treated for some months with tablets of protiodide of mercury without the slightest effect upon the eruption.

The tuberculous nature of the affection was finally shown by a biopsy kindly made by Dr. Udo J. Wile, whose report was as follows:

"The epithelium showed marked thinning, in places being reduced to two rows of cells. The surface, however, was unbroken. There was slight intracellular œdema in the lower cells of the rete. The main change was seen in the subpapillary layers and consisted of a broad strip of infiltration extending parallel to the surface, encroaching closely upon the basal layer of the cutis. The rather sharp circumscription of this infiltrate was striking. The infiltration itself consisted of epithelioid cells, small round cells in larger numbers, and scattered here and there giant cells of the Langerhans type. These cellular elements were not arranged in typical circumscribed tubercles, but they constituted a diffuse form of infiltration. There were moderate numbers of plasma cells scattered through the infiltrate and a few were also seen surrounding the vessels of the deeper layers of the cutis. Much of the infiltrate showed definite necrobiosis and softening and this was especially true of the cells lying in the neighborhood of the giant cells. The elastica was seen as fragmented bands; at the periphery of the infiltrate it was entirely absent within the process itself. A few small veins within and at the margin of the infiltration showed obliterative changes. These changes, while not those of lupus or tuberculosis verrucosa cutis, nevertheless constituted a picture which might be interpreted as a superficial form of cutaneous tuberculosis".

As a result of subsequent X-ray treatment, the patient has shown a most decided improvement. She was given about twenty-two exposures of ten minutes' duration, the entire area being treated at each sitting. A medium hard tube (Piffard type) was used, at a distance of four inches from the target, using two amperes of current.

My third case of unusual tuberculosis which was shown before the New York Dermatological Society, October 25, 1910, presented two ulcerations of the mucous membrane of the lower lip.

The patient was a man, thirty-six years of age, who gave a family history of tuberculosis, although he himself had apparently never had any symptoms referable to pulmonary or other form of the disease. His general appearance, however, and build were those of a likely subject for tuberculous infection. The labial ulcers had first appeared fifteen months previously and had healed at the end of a year. The ulceration reappeared about two months later and at the same time he first noticed a swelling in the submaxillary region.

An examination showed two crescentic ulcers, about a quarter of an inch in length, upon the central portion of the mucous membrane of the lower lip. Meeting posterially in a small area of scar tissue they diverged, and extended forward nearly to the vermilion border of the lip. The margin of the ulcers was fairly sharp, the base was necrotic and emitted a disagreeable, foul odor. The lesions were tender and bled easily upon slight traumatism. They were moderately deep and somewhat indurated. In the right submaxillary region was an olive-sized, hard, round, slightly tender enlargement. The lungs were apparently normal. The urine showed no unusual constituents. The Wassermann reaction was negative. The tuberculin test was unfortunately not made.

A biopsy made by Dr. Udo J. Wile showed the following evidences of tuberculosis:

"Under the low power the section showed a deep ulcer from which the epithelium arose abruptly on either side. The epithelium was slightly thickened where it approached the sides of the ulcer and its lower layers were invaded by numbers of polymorphonuclear leucocytes. The floor of the ulcer itself was made up of large numbers of round cells of the small lymphoid type, a few plasma and mast cells, and scattered here and there giant cells of the Langerhans type; a few typical tubercles were also seen in the ulcer itself, but more typical tuberculous structure was seen in the submucosa and even as far as and invading the muscularis. Here were large numbers of circumscribed tubercles of textbook type, each having a central giant cell surrounded by a layer of epithelioid cells, these in turn being surrounded by small round cells. In many of such circumscribed tubercles a definite central softening and necrosis were noticeable. Very striking, also, were the large numbers of mast cells surrounding and scattered about the nodules. A very large number of sections were stained for tubercle bacilli and a few acid-fast organisms were finally found in one of the sections".

The ulcers were treated by two applications of the acid nitrate of mercury and at the end of two months had almost entirely healed. The enlargement of the submaxillary gland had, however, remained unchanged. The patient later came under the care of Dr. Robert Abbe, who treated the relapsing ulcer with radium and obtained temporary improvement. Very recently I learned that the patient had developed evidences of pulmonary tuberculosis and had gone to the Pacific coast. As to whether the ulceration upon the lip was the primary focus of the disease is, unfortunately, impossible to determine.

PLATE V.—To Illustrate Article by Dr. Howard Fox.

Fig. 2. Case 1.
Lupus Vulgaris Serpiginosus.

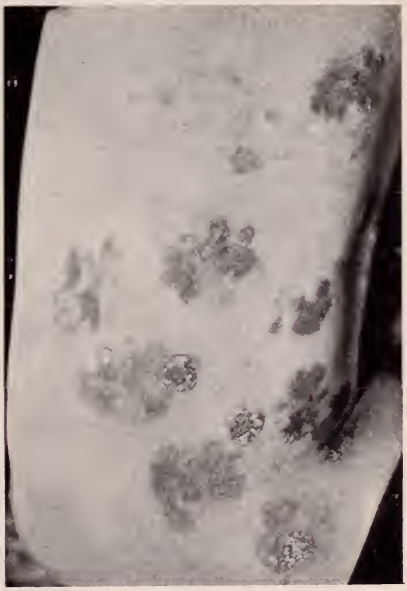

Fig. 3. Case 2.
Superficial Cutaneous Tuberculosis.

Fig. 1. Case 1.
Lupus Vulgaris Serpiginosus.

PLATE VI.—To Illustrate Article by Dr. Howard Fox.

Fig. 4. Case 2.
Superficial Cutaneous Tuberculosis.

Fig. 5. Case 3.
Tuberculous Ulcer of the Lip.

DISCUSSION.

Dr. Gilchrist referred to the value of the antiformin test in these cases. By this test, all substances were digested excepting the tubercle bacilli. It was much more easily applied, he thought, than the guinea-pig test.

Dr. Trimble, referring to Dr. Fox's third case, said that we would probably find more cases of tuberculosis of the mucous membranes, if a more routine search were made for them. During the past year he had seen three cases of tuberculosis of the lip and tongue which had been diagnosed at several clinics as syphilis. The fact that they had been diagnosed as luetic, was not surprising, as syphilis was much more common in this location than tuberculosis. It was, also, no easy matter to differentiate between them, upon the clinical examination alone. The speaker did not think that these cases were so rare as they were generally believed to be.

MULTIPLE AREAS OF PIGMENTATION OF EIGHT YEARS' DURATION, INVOLVING CHIEFLY THE TRUNK OF A GIRL OF TWELVE, HISTOLOGICAL EXAMINATION AND REVIEW OF THE LITERATURE.*

By Frank Crozer Knowles, M.D., Philadelphia.

Instructor in Dermatology, University of Pennsylvania; Dermatologist to the Presbyterian, the Howard, and the Children's Hospitals, to the Church Home for Children and the Baptist Orphanage; Assistant Dermatologist to the Philadelphia General Hospital and to the Dispensary of the Pennsylvania Hospital.

Case Report.

A well-built, healthy, intelligent girl, aged twelve years, came to the dermatological clinic of the Pennsylvania Hospital, Dec. 16, 1909, She had dark skin with black hair and was born of Syrian parents. The organs were normal and there had been no illnesses. There were two brothers and five sisters, the youngest four and one-half years of age and the eldest twenty, all healthy. Two of the sisters had been under my care for molluscum contagiosum and the father for syphilis. According to the mother, the child's skin was without "spots" until the age of four years, when pinhead to split-pea-sized areas appeared; these pigmented patches increased in size, but have been stationary, without enlargement, for some years. At the time of the first visit, numerous pinhead to split-pea-sized spots, light-brown to black in color, were noted upon the trunk and the upper arms; interspersed among these were one-quarter dollar to silver-dollar-sized, somewhat oval patches. Angular and linear lesions two to three inches in length were also observed. The freckle-like spots were absolutely smooth, unelevated, with no infiltration and with no dilatation of the blood vessels. No subjective symptoms were present. There were three pigmented areas upon the face, a dime-sized spot on the right cheek near the mouth and two pinhead-sized patches, one upon the left cheek and the other on the left upper eyelid. The anterior portion of the chest and the abdomen exhibited

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

only a few small pinhead-sized patches. The lateral portions of the trunk showed a few dime to one-half-dollar-sized patches and numerous pinhead-sized lesions. The shoulders and the back presented the most extensive involvement. The other portions of the cutaneous surface were free from the pigmentary condition.

The urine was found to be absolutely normal on the several occasions it was examined, excepting at one time when a very slight trace of albumin was noted. The red blood cells were normal in quantity; the leucocyte count showed 11,700; and the hæmoglobin was 85 per cent. A differential leucocyte count gave: polymorphonuclear, 69 per cent.; large lymphocytes and transitionals, 25 per cent.; small mononuclear, 4 per cent.; eosinophiles, 2 per cent.

A biopsy was made from a pigmented lesion upon the back and the sound skin adjoining. Sections were made so as to pass through both the central pigmented portion and the white margin. The Malpighian layer was rather thin throughout and its base line was inclined to be slightly more irregular than normal. In the cells of the deepest row of the Malpighian layer there was marked brown pigmentation. This pigment was found in both portions of the section, but much more abundantly in the part corresponding to the dark area on the surface of the uncut specimen. Here the pigment was not confined to the deepest portion of the epidermis alone, but could be seen in many of the cells nearer the surface. Beneath the Malpighian layer small collections of brown pigment could be seen in close proximity to the blood vessels. Excepting for the increase in pigment the skin was absolutely normal. No nævus cells nor any other abnormality was present.

The treatment consisted of applications of the solid carbon dioxide for some of the lesions and trichloracetic acid for others. The areas treated were markedly improved.

During the year that the patient was under observation no new lesions appeared, there was no increase in the size of the pigment spots, and there was no tumor formation. On May 22, 1911, the patient was again seen and numerous new pinhead-sized, pigmented areas were noted upon the trunk and the extremities, the exposed portions of the body exhibiting practically no involvement. The areas which had been treated by the "snow" and by trichloracetic acid and the spot excised for microscopic examination showed a partial return of the pigment. There also seemed to be a slight keloidal tendency in the treated and excised areas.

Literature.

A few cases have been reported in which pigment spots developed without any ascertainable cause. Howard Fox described a case, in a girl aged eighteen years. She had dirty-brown pigmentation of the entire trunk, the neck, and of the arms as far as the insertion of the deltoids. The condition had lasted since birth.

Sangster recorded an instance of lentigenous pigmentation in a man of twenty-two years, lasting since birth. The lesions were from a pinhead to half-crown in size, dark-brown in color, stopping at the neck, at the knees and above the wrists. According to the patient, his brother and mother exhibited the same condition.

Crocker reported a case in a boy of twelve years, who had two large symmetrically placed, dark-brown pigmentary stains on the middle of the front of the legs; a few small ones above them and upon the knee. The condition had lasted for two years.

Moynan reported an instance in which an infant exhibited an extraordinary

amount of pigmentation upon the back. There were also two spots of pigment upon the cranium and one on the left knee.

Hutchinson described a symmetrical pigmentary condition in a boy aged thirteen, which reached its height two years after inception. The eruption was limited to the lower extremities, with the exception of a single patch back of each ulna. The outbreak consisted of deep-brown stains of irregular shape and varied in size from a sixpence to a crown piece. Two years later the pigment had almost entirely disappeared.

Hutchinson reported a second case. A woman aged thirty years developed a pigmentary eruption upon the face, the extremities and the trunk. The eruption had been stationary since its start four years previously.

Whitfield described an outbreak of deeply pigmented, flat, finger-nail-sized, round and linear macules upon the shoulders and the back of the child.

Trimble in a paper, "Remarks on Neurofibromatosis," described a case closely analogous to that of the writer's. A woman aged thirty, in good physical and mental condition presented, from her neck to her buttocks, variously sized areas of pigmentation, some round, others irregularly shaped, from a silver-dollar to palm-sized, a few smaller, of some years' duration.

Three congenital cases of pigmentation have been reported by Graham Little, Tulloch and by Garrod.

Unilateral Pigmentation.

Unilateral pigmentation resembles the case of the author's only in regard to the type of lesion present. The few instances on record are included in the present paper.

Pernet described a case of this character. A woman aged twenty-one exhibited unilateral freckle-like pigmentation of four years' duration, upon the outer side of the left orbit and the cheek. The condition had been stationary, excepting that the pigment had become darker.

McKelway recorded a case of one-sided pigmentation. A feeble-minded woman, aged thirty-seven years, presented upon the entire left side of the body, from the roots of the hair to the knee, an eruption resembling freckles, from pinhead to split-pea in size, a few somewhat larger. The condition had lasted without change for nine and one-half years.

Adamson reported a case of a somewhat analogous nature. A woman of eighteen presented a unilateral pigmentary condition of some years' standing. The eruption consisted of split-pea sized, dark-brown macules, thickly sprinkled over the left side of the trunk, from the level of the nipple to the crest of the ilium behind and to the middle line in front and behind. A supernumerary nipple was present on the right side.

Mucous Membrane Involvement.

Several instances have been reported in which the mucous membrane of the mouth has been attacked, either alone or in combination with the cutaneous surface, by pigmented spots. The lesions in these cases developed without known cause and the freckle-like areas resembled clinically, at least, the author's case.

Jonathan Hutchinson recorded two remarkable cases of pigmentation occurring in twins, the distribution of the pigment being absolutely symmetrical. Two girls, twin sisters, nine years of age, who had always had the best of health,

developed freckle-like lesions at the age of three, upon the mucous surfaces of the lips, the cheeks and on the cutaneous surface of the lower lip, the upper lip and the chin. The spots had increased in number and size at exactly parallel rates in the two and the conditions presented were just the same in each. The pigmented areas were large pinhead in size on the skin surface and in the mouth as large as split-peas.

Malcolm Morris recorded a case of pigmentation of the mouth, the face, the arms and the axillæ.

George Henry Fox described a pigmentary involvement of the mucous membranes. A girl aged twenty gave the history of having had the condition for seventeen years. There were pinpoint to pinhead-sized macules, mostly of a jet-black color, situated about the eyelids, the nose, the mouth and the chin. A few lesions of the same type were noted upon the dorsal surfaces of the hands and the fingers. The vermilion surface of the lips was attacked.

Colcott Fox mentioned a case with pigmented spots of a brownish-black color, limited to the mucous membrane of the lips, the gums and the inner surfaces of the cheeks. The patient was forty years of age and had noticed the condition for four years.

In Hartigan's case the eruption had been of two years' duration in a boy of eleven. The pigmentary condition was noted below the left eye, on the left cheek, on the right side of the upper lip, on the trunk and on the neck.

Crocker reported the appearance of pigmented spots upon the lips, the cheeks and the hard palate. The lesions were of a sepia to a black color and split-pea in size. The patient was fifty-two years of age and had had the eruption for four years.

Pigmentation of the skin has been noticed associated with almost innumerable external and internal conditions. As there was absolutely no external cause for the production of the pigment in the present case, the pigmentary eruptions of known causation, although a few resemble in a slight degree the clinical picture in the author's case, can be readily excluded. As the patient was in the best of health with absolutely normal organs, the various internal causes can be excluded. The so-called Mongolian pigment spots should be mentioned as they resemble slightly the outbreak upon the author's patient. These areas are of a bluish color, being present at birth or developing within a few weeks afterward, the microscopic picture is somewhat characteristic, and the pigment usually fades, leaving no trace within a few years after the onset. Their differentiation is, therefore, not particularly difficult. "A peculiar pigmentary disease of the skin," described some years ago by Schamberg can be readily excluded. Xeroderma pigmentosum could hardly be considered. The disease mentioned by Hutchinson under the heading "Taches endémiques des cordilleras" bears but a faint resemblance to the present case. Some of the pigmentary conditions associated with tuberculosis resemble, however, the present case, as those instances reported by Stephen MacKenzie, Walter G. Smith, and F. W. An-

drewes. Pigmented spots resembling those found upon the case described above have been recorded by Sequeira, in two instances, complicating pernicious anæmia.

Von Recklinghausen's disease is very difficult to absolutely exclude, as it is a well-known fact that some years before the development of neurofibromata of the nerve trunks or molluscous tumors of the skin, the only symptom that may be present is pigmentation. Although in most cases there is a mental impairment, in some of those reported the minds of the patients have been absolutely normal. Graham Little recorded a case in which the pigmentation preceded the tumor formation by six years. Galloway mentioned an instance in which pigment spots were noted for some years before the appearance of tumors. In Weber's case pigmentation was observed for nine years before a tumor appeared. MacNalty recorded the presence of pigmented areas for some years before tumors developed.

The origin of the pigment in the epidermis is not as yet proven, whether autochthonous or derived from the corium. Unna believes that the pigment is formed in the cutis, from the exuded coloring matter of the blood and that it is carried to the epidermis by "chromatophores" or "wandering cells." Meirowsky, by means of experiments with the Finsen light upon the epithelium of an atrophic scar, concluded that the epidermis could manufacture pigment. Hellmich came to the same conclusion after experimenting with sunlight. He found that the epidermis has in itself the power of forming pigment and that the nuclear substance is probably the mother substance of the pigment.

The lesions in the author's case should probably be classed under the heading of ephelides; Unna places this type of pigmented spot under the heading of actinic melanoses. The histological picture is precisely the same in the writer's case as in those investigated by Cohn, and also by Unna. In the cases reported by these authors, however, the pigmented areas were found on the exposed portions of the body; the hands, the arms and the face. The lesions examined by these two investigators were supposedly caused by the sun's rays.

The thought, therefore, naturally arises, whether some actinic ray might not have caused the lesions in the present case, the covered portions of the body being less resistant to the effect of this ray than those parts uncovered. It is exceedingly difficult to explain the pigmented lesions, which are the exact prototype both histologically and clinically of those reported by Cohn and by Unna, excepting by such an hypothesis. Von Recklinghausen's disease cannot be abso-

lutely excluded, but tumor formation over eight years after the appearance of the pigmented spots is certainly a doubtful possibility. The only other possible explanation that could be offered is some congenital pigmentary defect which became manifest four years after the birth of the child.

Of the cases mentioned in this paper with pigmented areas, the one recorded by Trimble corresponds most exactly with that described by the writer; those described by Crocker, excepting that the eruption was limited to the legs, and by Hutchinson, which exhibited a greater involvement of the face and the extremities, are also closely analogous.

The prognosis of the pigmentary condition in the present patient is a matter of conjecture. It is to be hoped, but hardly to be expected, that involution will eventually occur, as in the cases of the so-called Mongolian pigment spots and in the case recorded by Hutchinson. Malignancy is, however, to be considered as a possible termination, as in the clinically somewhat similar, but histologically entirely different, pigmented moles.

Conclusions.

Multiple pigmented spots of the covered portions of the body, to the almost exclusion of the exposed parts and developing some years after birth, is a rare condition. The author's case is of this type.

The few cases of this character which developed years after the birth of the child, even in adult life, have been erroneously classed as pigmented moles because a biopsy has not been made.

A histological examination, alone, can prove the identity of the affection.

The entire absence of nævus cells disproves the classification as pigmented nævus and lessens the possibility of the congenital origin of the condition.

Sections show an increase of pigment; the skin otherwise is absolutely normal.

The condition is in reality an ephelis.

An actinic cause is the best hypothesis as to the origin of the affection, although the pigmentary stage of von Recklinghausen's disease cannot be absolutely excluded. A congenital pigmentary defect might also be considered.

The writer wishes to express his thanks to Dr. Charles N. Davis for the privilege of reporting the case and to Dr. Draper, Resident-

PLATE VII.—To Illustrate Article by Dr. Frank Crozer Knowles.

Fig. 1.
Multiple Areas of Pigmentation.

PLATE VIII.—To Illustrate Article by Dr. Frank Crozer Knowles.

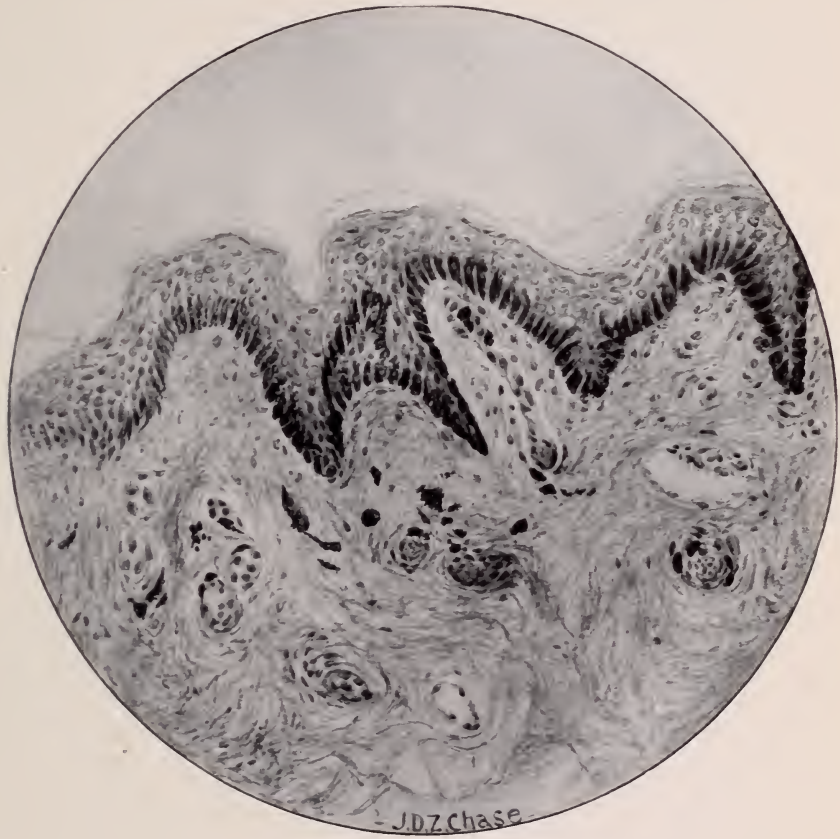

Fig. 2.

Multiple Areas of Pigmentation.

Increased pigment in lower layers of epidermis and free pigment in neighborhood of blood vessels in subpapillary portion.

Pathologist of the Pennsylvania Hospital, for the pathological specimens.

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DISCUSSION.

Dr. Trimble said that his own case, to which the reader of the paper had referred, was very similar to the one reported by Dr. Knowles. The speaker said he saw his patient only once. He was very much inclined to think that these pigmented conditions, without subjective symptoms, similar to the one just reported, frequently preceded, by many years, the development of molluscous tumors of the skin. In many of these cases the patients gave a history of pigmented areas dating back for six or eight years or longer and he would not be surprised to learn that Dr. Knowles' patient would develop tumors of this character later on.

Dr. Howard Fox said that probably many cases of so-called unilateral nævus were in reality not nævi and should properly be called unilateral lentigo. In his own case of peculiar diffuse pigmentation, to which Dr. Knowles had referred, no biopsy had been made and it was therefore impossible to exclude the diagnosis of nævus.

Dr. Hartzell said that an examination of the sections showed absolutely no alteration in the structure of the skin. The lesions were of the nature of giant freckles, showing simply a deposit of pigmentation in the basal-cell layer of the epidermis.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, October 24th, 1911.

Herman G. Klotz, M.D., *President.*

Mottled Chin Associated with Syphilis. Presented by Dr. Trimble.

Dr. Trimble said that at the last meeting of the American Dermatological Association, he had described a condition that sometimes occurred with syphilis, namely the "Mottled Chin in Syphilis." The present case, although not an absolutely typical one, exhibited this condition on the chin. The lesion consisted of a slightly brownish appearance under each angle of the mouth and a dirty, yellowish hue over the whole surface. The point of the chin, the speaker said, was usually free. The lesion in this case was more typical a week ago than when presented to the So-

ciety. The condition was comparatively rare, but when found, the diagnosis could nearly always be made without looking at any other part of the body.

Dr. Bronson said that he had often seen such flat papules around the chin and the nose in early syphilis, giving the appearance of seborrhœa. They did not form elevated papules, but extended at the periphery over considerable areas, and were of a brownish-red hue. He did not recognize the particular shades of color that had been described.

Dr. Jackson said the case presented a condition often seen in syphilis, a seborrhœa of the chin.

Dr. Dade said that he would never have thought of syphilis from simply looking at the patient presented by Dr. Trimble. It was a new diagnostic point to him.

Dr. Trimble said that it was merely a color sign and that the case did not show up very well in artificial light, but it was a dirty, yellowish hue, inclined to brown on the sides. In noticing the cases as they came into the clinic and seeing this condition before the patient undressed or was carefully examined, he had frequently made a diagnosis of syphilis which was later verified by examination of the body. Of course no one would want to put a case under treatment for this indication alone, before making a thorough examination. The speaker asked the opinion of the members in regard to the treatment of this case. The patient was taking mercury, but she was now eight months pregnant, and he would like to know the views of those present in regard to the advisability of giving salvarsan at this time.

Dr. Howard Fox said that he had had a case which went on to full term after an intravenous injection of salvarsan; the pregnancy was not affected. In another case which was followed for a month, there was no effect on the pregnancy.

Dr. Fordyce said that he gave an intravenous injection of salvarsan last Spring to a woman three months pregnant with no effect on the gestation.

Dr. Winfield told of a case in which he had given the salvarsan in a case of pregnancy with no ill-effects. The child was apparently healthy when born.

Dr. Trimble said that Dr. Howard Fox had reported on a case which they had treated together. They had had two similar patients before this, but never one that was so near term, which fact made him hesitate to administer salvarsan to the individual under discussion.

Dr. Klotz said that it would seem to be in the interest of the child to make a trial in such a case.

Case for Diagnosis. Presented by Dr. Klotz.

Mr. W. L. R., forty-six years of age. The patient had generally been in good health. Formerly he drank and smoked excessively, but he had given up both for some time. About four years ago he was at first refused life insurance on account of alleged diabetes, but was afterward accepted as an extra good risk. He had never had any disease of the skin until about ten months ago, when red blotches appeared on the legs and forearms without any decided subjective symptoms. Under the use of rhu-

barb and soda and phosphate of sodium, the eruption nearly disappeared after a few months, but never entirely. The lesions left slightly yellow stains. The eruption began to appear again about the middle of September and had since gradually spread over the extremities and most of the trunk. The urine contained no albumin, sugar, or excess of uric acid. The changes of the skin appeared more or less diffusely over the extremities and as poorly defined patches on the back and chest, exhibiting greater intensity on the flexor surfaces of the knees and elbows and over the sacral region. On first glance, the impression was that of a diffuse, more or less intense, almost scarlet redness, but on closer inspection it became evident that the redness was due to the formation of numerous, small, red papules of millet-seed size, separated from each other by apparently normal skin, retaining the color on pressure, rounded and rather smooth on top, or covered by a thin scale. The eruption caused but mild itching and scratch effects were not in evidence. The face, hands and feet, in particular the nails and hair, were not affected. Only on the outer aspect of the right leg, on the lower portion, did the papules appear in much closer proximity to each other, so as to give the appearance of a larger, more uniform patch, with more decided scaling and moderate infiltration of the skin, but nowhere was the character of the small, separate papules entirely lost. This condition, when first seen on October 14th, in a remarkable way agreed with the description of the early stage of lichen ruber as given by Hebra and Kaposi and as cited by Stelwagon; it did not so well agree with the description by Stelwagon of the early stages of the affection, particularly owing to the absence of the eruption on the hands, feet and scalp. On October 21st, the appearance of the skin had considerably changed on the upper extremities and the trunk; the small papules were still present, but were paler in color and flattened down almost to the level of the normal skin. As a whole, however, the entire skin seemed more or less red, with a yellowish tinge. On the upper extremities the color was also less intensely red, but the minute papules were still quite distinct. The patient, who had been taking ichthyol internally, was feeling quite well; a certain burning of the skin, which had previously been present, was hardly perceptible any longer. No external remedy had been applied. For several reasons no arsenic had been given to the patient. The drug would have to be given in very large and long continued doses in order to show any effect in such cases and in consideration of the unknown ætiology of the trouble, it would seem justifiable to eventually try salvarsan.

Dr. Bronson would not attempt to make a diagnosis, but it seemed to him that there was present a combination of different lesions, some primary, and others secondary. There were certainly petechiæ on the lower extremities of a purpuric character; probably secondary effects. The origin of the disease, of course, he did not know.

Dr. Jackson said that the case had impressed him as it did Dr. Bronson; that it was probably a purpura that was secondary to a toxic erythema of some sort.

Dr. Trimble said that the case resembled one which he had shown over a year ago. The lesions in the present instance were larger, but a number of them were follicular, and he thought it might be termed follicular purpura.

Sarcoma Cutis. Presented by Dr. Dade.

The patient was a male, nineteen years of age, a driver by occupation and a native of the United States. The family history and past personal history were negative. One year ago the patient noticed a small, soft nodule, about the size of a pea, on the left side of the scalp. One month ago two small tumors appeared on the abdomen and one upon the back. About the same time a painful swelling developed in the right groin. When presented to the Society, there was a walnut-sized, hard nodule, reddish in color, on the left side of the scalp. There were two similar lesions on the left side of the abdomen and one in the right lumbar region. They were all somewhat tender. There was a hard, somewhat painful tumor, three by two inches, in the right inguinal region. This lesion appeared to be more inflammatory in nature than the others.

Dr. Fordyce said that a histological study of the case should be instituted in order to eliminate any other condition, but that clinically he thought it to be sarcoma.

Dr. Whitehouse agreed with Dr. Fordyce that clinically it appeared to be a sarcomatous condition, but that it should be histologically investigated before making a positive diagnosis.

Dr. Jackson thought it was sarcoma.

Dr. Dade said that he would like very much to know if there was any dissenting opinion, as some who had seen the case could not understand why the glands should be involved.

No dissent was expressed by the members.

Case for Diagnosis. Presented by Dr. Sherwell.

During the latter part of June, 1911, the patient, while having some work done to the teeth, noticed that the face and the mucous membrane of the mouth and tongue became very much swollen. This condition lasted for about ten days and was followed by an attack of follicular tonsillitis of about five or six days' duration. The face, mouth, and tongue again became swollen and this condition lasted for about a week. During this time the cervical glands became enlarged and painful and there was severe pain and swelling over the clavicle near the sterno-clavicular articulation on the right side. This subsided after a few days, to be followed by a similar attack on the left side. There was severe pain and a swelling of about the size of a hickory nut back of the right arm. The glands of the groin were enlarged. The temperature was 100° F. at night, and he was obliged to take to bed. There was severe pain in the region of both

kidneys, so severe that he was unable to stand erect. During the treatment for this condition, he was attacked with a most severe and intense itching over the entire body. This was accompanied by an eruption of the skin, which consisted of red macules on the trunk, hands, feet, forearms, legs and ankles. The lesions would appear and disappear in a period of five or ten minutes. Occasionally punctate papules would appear. Within the past few weeks he had complained of a severe burning sensation. Up to three weeks ago, the eruption would disappear, leaving no marks on the body. It was now more constant on the trunk and arms. The urine examination was negative. An examination of the saliva showed a fairly acid reaction.

Dr. G. H. Fox thought it an urticaria of a peculiar type, in which the typical wheals were absent, but instead, erythematous patches were present.

Dr. Jackson said that it was an urticaria without doubt. Erythema and urticaria were so closely related it was sometimes difficult to differentiate them.

Dr. Winfield said that it was undoubtedly urticaria. In such cases he had found ichthyol and salol very beneficial.

Dr. Johnston agreed with the diagnosis of urticaria and for treatment suggested saline irrigation of the colon. This, however, had to be persisted in and at first given daily.

Dr. Bronson, regarding the case as of toxic origin, suggested asperin as an internal remedy.

Dr. Sherwell said that the case had given him a great deal of trouble, as the patient suffered considerably and showed evidence of intestinal derangement and had been treated, therefore, with various remedies but all to little avail. The patient had been very thoroughly examined by other physicians also; and his urine showed no especial increase of any of the abnormal elements. He did not remember that indican had been specially considered, but supposed that the examination included that also. He would be glad of any therapeutic suggestion. His own diagnosis in the case had been urticaria, caused by irritation, malassimilation and faulty metabolism.

Case for Diagnosis. Presented by Dr. Jackson.

The patient was a man, apparently well developed and in good health. He said that the eruption had appeared every Fall for the past four years and that it disappeared entirely in warm weather. The eruption was distributed more or less over the whole body, but was most pronounced over the sides of the trunk, hips, and thighs. The hands were free. The patient stated that the eruption itched slightly, especially after a bath. It began as firm, pinhead, scaly papules, which could be scraped away with the finger nail. Later, small irregular-shaped, pale-yellowish, scaly, red patches formed. Viewed by cross light, there was an appearance of superficial scarring. In reality, there were only depressed, adherent scales.

Drs. Winfield and Fordyce agreed that it was a case of parapsoriasis.

Dr. Howard Fox thought that the eruption belonged to the parapsoriasis

group, in spite of the fact that it disappeared entirely during the summer. The patient's statement, however, should be accepted with some reservation, as it was quite probable that some of the scaling disappeared from perspiration during the summer.

Dr. Bronson said that parapsoriasis was always a rather vague term, but it implied, if anything, an inflammatory disease approaching in character to psoriasis. There must be some vascular disturbance and inflammation. In the present case, he saw nothing of that. Moreover, the scales were not of the same character. The case seemed to him to be simply a form of keratosis, such as was seen often on the extremities, particularly of aged persons and those who did not bathe sufficiently. The patient had confessed he was bath shy, because of the itching that followed. A good scrubbing with soap would probably remove all traces of the disease.

Dr. Jackson said that Dr. Bronson had stated his views. He himself believed that it was more of a keratosis than anything else. The man's skin was very dry and the condition seemed like a keratosis in small spots. There was no inflammation at all. He would treat him with a salicylated ointment and if possible would present him at the next meeting.

Case for Diagnosis. Presented by Dr. Fordyce.

The patient was a negro girl, three years of age. Her mother had had three healthy children. The patient presented no evidence of glandular or other tuberculosis. The eruption had been present for a year and was situated over the trunk and lower extremities. Over the trunk it was distinctly follicular and grouped and suggested a lichen scrofulosorum. Over the extremities it was diffuse and scaling. The scalp was the seat of a marked seborrhœic dermatitis.

Dr. Howard Fox said that this case did not correspond at all with his conception of lichen scrofulosorum, either from a study of two cases he had seen or from the text-book descriptions. He thought the condition seemed more like a seborrhœic dermatitis than anything else.

Dr. Jackson said that he would like to see this case treated with some sort of emollient applications. He did not think that it was a case of lichen scrofulosorum.

Dr. Sherwell said that it did not appear to him like lichen scrofulosorum. It was not what Hebra had described. He thought that local applications of salicylic acid would prove beneficial.

Dr. G. H. Fox said that he agreed with Dr. Sherwell and thought the condition was easier to cure than to diagnose.

Dr. Bronson said the disease called in Vienna lichen scrofulsorum was one he had rarely seen. Certainly the case presented did not show many of the features that had been described as typical of that affection. First, as to the appearance of the essential lesion which, as originally described was a papular one characterized by an acuminate, yellowish elevation, consisting of a horny substance, a plug sitting on a slightly inflammatory base (sometimes attended with pustulation); second, in the location, which was usually the sides of the chest or loins.

Dr. Robinson said that he did not think a diagnosis of lichen scrofulosorum should be made in this case considering the localization and character of the lesions. He had seen only three cases of lichen scrofulosorum in this country,

but had had opportunity of studying these very carefully and in no case was the condition like that in this case. He would consider lichen scrofulosorum as ruled out. He had seen many cases somewhat like this one in colored children—a seborrhœic dermatitis. There were several patches on this child's leg which would probably show on section, a parakeratosis. He would call it a seborrhœic dermatitis.

Dr. Johnston disagreed with the diagnosis of seborrhœic dermatitis and thought that the condition was probably a diffuse keratosis belonging to the group of ichthyosis rather than the inflammatory parakeratoses. The question could probably be decided only by the examination of a section.

Dr. Trimble said that he had seen three cases of lichen scrofulosorum, two of them in negro children. From his knowledge of these three cases, he thought the lesions on the trunk of this child did not look unlike those of lichen scrofulosorum. They were somewhat keratotic and pinhead in size, grouped and had no subjective symptoms. The thigh and leg lesions differed greatly from those on the trunk and he had no opinion to express in regard to these.

Disseminated Erythematous Lupus. Presented by Dr. Johnston.

The patient was a man aged twenty-one. The disease began three years ago with a frost bite of one ear. Extension to the nose, cheeks, scalp and other ear was prompt, the lesions presenting the characteristic appearance in these sites, including the butterfly patch. After a time, small scaling patches began to develop on the chest. When presented to the Society these lesions were over the whole trunk, front and back, and extended down upon the thighs and upper arms. They showed every stage of development from a small patch of erythema to areas 2 cm. in diameter, in which atrophy had partially supervened. The scales on the body formed a striking contrast to those of the face, in that they had undergone none of the ordinary blackening of pathological keratin and were white and glistening. Their disposition was at first sight irregular, but closer inspection showed that they followed the general distribution of the blood supply. The general aspect did not correspond to Kaposi's description of the acute cases of erythematous lupus, but was rather that of an extraordinary widespread disease of the ordinary type. The patient's health was below par, but examination revealed nothing except enlarged post-cervical nodes. The Wassermann and von Pirquet tests were negative, but the latter would be tried again. On the fingers of both hands, on both surfaces, were typical lesions of necrotic granuloma.

Dr. G. H. Fox said that he was glad that Dr. Johnston had presented a case of the kind in which the diagnosis was clear. He had never seen a case like it. He had seen a number of cases of lupus erythematosus disseminatus, but the lesions on the hands and arms were usually different from those on the face. In this instance, however, they appeared to be of the same character. The whitish scaling of the patches, although unusual, was sometimes seen on the face.

Dr. Bronson said that Kaposi had described the disease as appearing in recurring exacerbations, often attended with constitutional disturbance.

Dr. Whitehouse said that aside from the fact that the eruption was so distinctly a lupus erythematosus, an interesting feature was the amount of destruc-

tion of tissue in the lesions on the body, which was much greater than in the ordinary cases. Another feature was the condition of the lesions on the hands and fingers, resembling in every respect those of necrotic granuloma. It was an exceedingly interesting case.

Dr. Trimble said that it was interesting to note the frequency with which these wide-spread cases of lupus erythematosus had been occurring of late.

Dr. Holder said that one of the remarkable things in this case was the peculiar distribution of the lesions in regard to the cutaneous nerves. Their position seemed to be somewhat similar to that of the lesions seen in zoster. Among the pathological findings in lupus erythematosus was the atrophy of the nerve trunks. In old lesions, these were reduced to irregular, fibrous cords and it was possible that the dilatation of the capillaries, which made the most striking feature of the sections, was due to the paralysis of the arrectores pilorum and the loss of support that they normally afforded to the superficially placed vessels. In Dr. Johnston's case, it would seem pretty clear, from the enormous number of lesions, that some focus existed from which they originated and a possible path of transmission might well be the nerve fibres. In the speaker's opinion it was there that the primary cause of the disease existed, possibly the bacillus of tuberculosis or some other organism. In a very extensive research on lupus erythematosus made by the speaker at the University of New York, in one case two bacilli stained by acid fuchsin were seen in the nerve fibres. Dr. Johnston's case was very extraordinary as regarded the number of lesions, but they seemed to have all the characteristics of those of lupus erythematosus.

Dr. Johnston said that he had stated that the von Pirquet test had been made in Bellevue Hospital and was reported negative, but the posterior cervical nodes were very much swollen and it seemed probable that the man had a general tuberculosis. He intended to try the von Pirquet again, and see if he could not get a reaction.

Lichen Ruber Planus. Presented by Dr. George Henry Fox.

The patient, Bella L., was a girl, ten years old, who had been presented at a number of dermatological meetings in New York, including the International Congress of Dermatology and the recent Clinical Meeting of the American Dermatological Association. As a result of recent emollient treatment, the scales had been removed and the eruption was not as characteristic as before. The diagnosis could have been made from the location of the lesions and from the isolated acuminate horny papules. A few weeks before, there were patches almost snow white in appearance, that showed very characteristic arrangement of lesions in the form of bands, especially well marked at the borders of the popliteal spaces.

Case for Diagnosis. Presented by Dr. Fordyce.

The patient, a woman about fifty years of age, had been before the Society a number of times. When she came to Dr. Fordyce's clinic several years ago she had a typical serpiginous syphilide of the body which disappeared under treatment. At the same time she had a lesion on the bridge of the nose and cheeks, which was elevated, red, sharply circumscribed and presented many of the features of a lupus erythematosus. At

one time it was distinctly influenced by anti-syphilitic treatment. It then recurred and most intensive treatment with mercury and iodide failed to influence it. Histological examination of the lesion gave a picture of syphilis rather than lupus erythematosus. Several Wassermann tests gave negative results in the last months. She had been treated by Dr. Trimble with quinine internally in doses of from six to twenty grains daily and with the local application of tincture of iodine. Under this treatment the lesion had practically disappeared.

Dr. Jackson said that a case at his clinic was being treated in the same way with iodine and was doing well.

Dr. G. H. Fox said that years ago he had treated cases of lupus erythematosus with quinine and was surprised at the remarkable effect which it had on the lesions of the face in nearly every case. In one case a very intense inflammation was set up, with, however, no improvement in the patches.

Dr. Trimble said that the fact that the patient was positively syphilitic had to be considered. It did not show the atrophy of ordinary lupus erythematosus. The scar on the side of the nose was caused by the biopsy which was made. He was inclined to call the condition a result of a syphilide, though it might be lupus erythematosus engrafted on a syphilide.

Lichen Planus. Presented by Dr. Kingsbury.

The patient was an elevator operator, twenty-eight years of age. He stated that the eruption began on the glans penis about three months ago and shortly after small, elevated patches appeared on the trunk. At the time of the meeting there were a few scattered papules on the chin and abdomen, but the lesions of interest were on the back and abdomen. These varied in size from half an inch to an inch and a half in diameter. The patches were depressed in the centre and many of them showed a tendency to annular formation. Some were covered with fine, grayish scales. There were no lesions on the extremities save a single papule on the left wrist. Although the man was neurotic and considerably concerned about the eruption, he did not complain of any pruritus.

Dermatitis Seborrhœicum. Presented by Dr. Kingsbury for Dr. Bulkley.

The case had been previously shown by Dr. Bulkley at the September meeting and at that time there was some difference of opinion as to the diagnosis. The patient was a young woman and was said to have had her disease for nearly one year. The eruption was very general and the palms of both hands were affected. Dr. Bulkley had regarded the case as one of seborrhœic dermatitis and under his treatment improvement had been very marked.

Syphilis. Presented by Dr. Whitehouse.

The patient had been presented before the Society for diagnosis last April by Dr. Fordyce. At that time the Wassermann and Moro tests were

both negative, and blastomycosis, actinomycosis and sporotrichosis had been eliminated. Two years previously the patient had been operated upon by Dr. Ochsner and Dr. Murphy in Chicago, presumably for a tuberculosis, for the patient stated that one of the surgeons had injected tuberculin. The trouble had then existed for two and a half years, and consisted of ulcerating, granulomatous lesions involving the bridge of the nose and the centre and left side of the forehead, together with swelling, redness and pain over the region of the right malar prominence. Early in May, 2 mg. of tuberculin were injected with a negative result. A faintly positive Wassermann was obtained on May 3rd, and on May 8th he was given 0.5 gm. of salvarsan intravenously and on May 13th, a second dose of 0.5 gm. intramuscularly. At the May meeting he was presented to the Society, showing considerable improvement. The ulcerations had healed and the swelling and redness had diminished. Dr. Whitehouse said that he did not see the patient during the summer. On June 30th, the Wassermann was strongly positive. On October 5th another Wassermann was positive. The patient had had no treatment of any kind in the meantime. He had been back at his work for some time, his face being well. Although the local trouble had entirely disappeared, Dr. Whitehouse gave him another intravenous injection of 0.5 gm. on October 6th, and this was repeated on October 23rd. So he had had, in all, four injections of salvarsan, three intravenously and one intramuscularly. There was no history of syphilis. He was married and had three children, one five or six years of age, the second, three years, and the third, ten months old. He had never taken mercury. It seemed clear, however, that it was a case of syphilis, and it showed in one way what vagaries the Wassermann test was capable of. Dr. Fordyce obtained repeated negative Wassermanns in May and April; it was faintly positive on May 3rd; but by May 8th, before the first salvarsan injection, it was negative and had been positive ever since. Dr. Whitehouse said that he intended to continue the use of mercury.

Dr. Fordyce said this case had interested him exceedingly because of its persistence in spite of very active anti-syphilitic treatment and because of the repeated negative results of the Wassermann examination. He stated, however, that in late syphilis we were obliged to reckon on the possibility of error in interpreting the test in about 15 per cent. of the cases. He had repeatedly seen tertiary manifestations of syphilis in which the Wassermann test was reported as negative. In several of these cases, after the administration of salvarsan, the reaction had become positive. This observation had been made by many syphilographers and salvarsan was given in these cases as a provocative and diagnostic measure, the theory being that the spirachætæ were localized in the lesion and were so few in number that they did not give rise to antibodies until they were broken up and diffused by the treatment. The occurrence of negative reactions in late syphilis spoke in no way against the value of the Wassermann test as a diagnostic measure.

Report on a Case for Diagnosis Previously Exhibited. Reported by Dr. Robinson.

Dr. Robinson said that he would like to bring to the memories of the members a case which Dr. Kingsbury had showed twice before the Society, in which almost all the members made a diagnosis of lichen planus. He had examined the urine several times, finding no trace of sugar, but at last had found a ½ per cent. of sugar. No one for a moment had suspected that it was a case of xanthoma. One peculiarity of the case was that the eruption had almost entirely disappeared before the ½ per cent. of sugar appeared. He showed photomicrographs illustrating the case. The disease was shown by microscopical examination of sections to be one of xanthoma diabeticorum.

Dr. Howard Fox thought the communication of Dr. Robinson intensely interesting. While the case had been presented twice before and had occasioned a good deal of discussion, no one had ever hinted at a possible diagnosis of xanthoma diabeticorum.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Stated Meeting held March 7, 1911.

Jerome Kingsbury, M.D., *Chairman.*

Rhinoscleroma. Presented by Dr. Harmon Smith.

In presenting these three cases Dr. Smith desired to state that each patient had been previously presented before the Laryngeal Section of the Academy and more complete histories could be obtained from the *Laryngoscope,* the official organ of the Section on Laryngology. The speaker also added that his remarks upon the subject were largely based upon the observations and experiments made by Dr. J. F. Güntzer, who had devoted considerable time and work to this subject, both in the clinic and in the laboratory at the Manhattan Eye, Ear, and Throat Hospital. In a monograph published in the *Medical Record* of July 24, 1909, could be found a complete history of rhinoscleroma, both of the nose and throat, and the method of vaccine treatment as pursued by Dr. Güntzer. It had been formerly supposed that rhinoscleroma occurred only in Russia, Russian Poland and Prussia, but cases had been reported in recent years, from Egypt, India, Australia, Japan, Hawaii and South, Central, and North America. Rhinoscleroma was endemic in Russia, Austria, Eastern Prussia and Central America. Recently a case of rhinoscleroma in a patient born in America had been reported by Dr. G. W. Wende, of Buffalo. Our intimacy with the lesion and our advanced method of eliminating other conditions simulating rhinoscleroma, had enabled us to detect this

condition more frequently than formerly, or there was a greater number of infected people coming to our notice. In the Section of Laryngology, a case of rhinoscleroma was formerly looked upon as a rarity, but in the last two years there had been seven cases reported. Up to 1903, there could be found only 650 cases reported in all the literature. The last experiments had shown that rhinoscleroma was an infectious disease due to the presence in the tissues and the blood of the Frisch bacillus, which is the same as the pneumonia bacillus (Friedländer) and the ozæna bacillus, it having been proven impossible to differentiate, by any test, between these three bacilli. The initial lesion of rhinoscleroma was usually upon the floor of the nose anteriorly and might be upon the mucous membrane of the septum or turbinate immediately adjacent. From this spot it extended both externally and internally, but rarely involved the upper third of the nose, which contained the terminal branches of the olfactory nerve, hence these patients usually preserved the sense of smell. The alæ and the upper lip were usually involved. The disease also extended into the pharynx and larynx. It was formerly supposed to be a disease of adult age, but recently cases had been reported in children. Wolkowitsch reported a case coming under his observation at the age of twelve, who had symptoms for eleven years. Freudenthal reported a case nine years of age, while Rydygier, Jr. had thirteen cases ranging from seven to thirteen years. The cause of the disease the speaker said, was obscure, but conclusions drawn from the histories of the cases coming under observation would lead one to believe that race could be excluded, as well as infection from animals and also traumatism. There was, however, evidence that poor food, bad hygienic conditions, low vitality and resistance and possibly some condition of soil or atmosphere predisposed to the disease. It was unquestionably a disease of the poorer classes. While members of the same family were frequently affected and while our greatest number of cases came from a certain locality, yet this did not prove its infectiousness, for efforts to transmit it to animals and to man by inoculation had proven ineffective.

In the examination of blood from the infected area, the bacilli previously mentioned were always found. In a specimen of tissue, the bacilli might be found; also certain hyaline cells called Russell bodies and a very much swollen cell called foam cell. These pathological and biological findings, together with a history of the lesion and a negative Wassermann test, made the diagnosis of rhinoscleroma almost certain.

Case 1. H. B., female, twenty-five years of age, native of Scedeltz, Russian Poland. She had been in the United States one year when she was first examined by the speaker on July 9, 1908, at the Manhattan Eye, Ear and Throat Hospital and after the diagnosis was made was turned over to Dr. Güntzer for treatment. There was a nodular deformity of the alæ externally and a raised, moist, infiltration extending down upon the upper lip for one-half inch. The nostrils were almost closed anteriorly. Six years previously, she had had

polypoid growths removed from both nostrils in Warsaw, Poland. One year later the operation was repeated, but the nose soon became clogged again. The breathing became more difficult and two years after the nasal trouble began, the cutaneous lesion appeared. One might reasonably conclude that the first disturbance was rhinoscleroma. The nose was painful at times and would often bleed. The tonsils and pillars of the fauces were united in one compact mass, dark-red in color. The naso-pharynx was almost obliterated, rendering it impossible to examine the post-nasal fossa. The uvula was absent and there was a hard, granulated, nodular mass covering the hard palate.

Treatment. The patient was admitted to the ward and during the next month an attempt was made to improve her condition by good nourishment, rest and tonics, but she could not be persuaded to stay more than three or four days at a time. On August 3rd, the opsonic index was 0.5 and she received an injection of 1 cc. of autogenous vaccine containing 250,000,000 dead bacteria, with practically no general reaction, but a marked local reaction, very profuse blood-stained nasal discharge, sore throat, pain over the bridge of the nose and clear nasal bleeding and some malaise. On August 13th, she received the second injection of 250,000,000 dead bacteria; the temperature rose one degree within two hours; general malaise, marked frontal headache, soreness of all muscles, pain over the nose, sore throat, blood-stained nasal discharge and marked diaphoresis with weakness. On August 20th, the opsonic index was 0.67 and an injection of 1 cc. of vaccine containing 250,000,000 dead bacilli was given. Some local reaction was present. The general reaction was more marked and the patient quite prostrated. On August 22nd, the index was 0.6 (unsatisfactory) and the patient became very restless and at times was moaning; had frontal headache and pain in the ears; the area of nasal discharge was more inflamed and painful. On August 31st, the general condition was better, but the local condition was unimproved. The index was 0.75. An injection of 1½ cc. of vaccine containing 375,000,000 dead bacteria was employed and within a few hours the patient complained of severe pain in the head and neck. She had general malaise and profuse sweating. On September 14th, the index was 0.9 and an injection of 2 cc. containing 500,000,000 dead bacteria was given and the patient went home. On her next visit to the clinic she said she had had intense headache and dizziness the day after the injection. On September 22nd, the patient did not report. From thence on she appeared at the clinic regularly two or three times a week. This woman received in all thirty-two injections with no abscess formation. Estimations of the opsonic index were now omitted and the injections made about once a week, rarely twice, and now and then the dose increased up to 4 cc. Though it could not be said that the disease had in any way decreased, yet it had not advanced and the patient's general condition was greatly improved. During these eight months she had taken general tonics. In this case, too, from about the middle of November on, the diseased area was exposed to the X-ray twice or thrice weekly in the usual manner, without any marked benefit, excepting externally. One month ago, the left nostril was freed from the infiltrated mass with the knife and curette and at this time a perforation of the septum was noticed, but whether it antedated the rhinoscleroma could not be determined. The nasal calibre was held patulous for a while with rubber tubing, but since its removal it had again almost entirely closed up. The application of the X-ray had entirely overcome all external manifestations.

Case 2. F. G., male, thirty years old, born in Russian Poland and had resided in the United States for four years. Both the family and past histories were negative. He was admitted to the speaker's clinic at the Manhattan Eye,

Ear and Throat Hospital, last December, with the following history. Three months previously, which would have been in August last, he had a severe hæmorrhage from the right nostril. Three days later this recurred and he noticed a small sore at the entrance to the nasal cavity, upon the floor and upon the septum. This ulcer extended until the whole of the right ala was involved and presented an ulcerating, bleeding surface, surrounded by small pea-sized nodules. Bleeding occurred upon slight disturbance of the parts. Upon examination, internally, a large perforation of the cartilaginous portion of the septum was observable. A Wassermann reaction was taken and proved negative. Examination of the blood showed the supposedly specific bacillus of rhinoscleroma. Examination of a specimen also showed unmistakable evidence of rhinoscleroma and, in addition, some unique histological and pathological conditions which were best described by Dr. Jonathan Wright. Twenty applications of the X-ray had been given with considerable manifest improvement externally. Dr. Smith said that in reporting this case as one of rhinoscleroma from a pathological standpoint, it was scarcely necessary to give a detailed and technical description of the various findings in the laboratory on which that opinion was based, since such reports had been, in the last few years, repeatedly made from the laboratory of the Manhattan Eye, Ear and Throat Hospital, on tissue removed from the lesions of a number of cases seen in the clinics. Suffice it to say that, histologically, all the characteristics going to make up a diagnosis of rhinoscleroma were present, except perhaps, the tinctorial evidence of the presence in the tissue of the bacillus of Frisch, it however, having been repeatedly cultivated from the blood drawn directly from the lesion. The foam cells, the hyaline or Russell bodies and the eosinophile cells were all to be observed in the most striking way. As some investigations had been going on in the laboratory on the existence of fat and the lipoids in other tissues, sections from this case were put through the technique for the detection of these bodies, including neutral fat, soap and fatty acids, cholesterin and lecithin. The results of such work on this and other cases would be, the speaker said, more fully described elsewhere. In contradistinction to the degenerated or coagulation-necrosis areas in syphilis and tuberculosis, the crumbling cytoplasm of the foam cells seemed to furnish only a moderate amount of material taking the various stains for neutral fat and showing the tinctorial reactions for cholesterin and for lecithin. They were all present, but not in an abundance which very decidedly exceeded that of the tonsils, for instance, while the neutral fat was much less in evidence than was usual in tubercle or gumma. A striking feature was the richness of the diseased areas, both in and out of the plasma cells, in soap, probably in the form of an oleate of sodium or calcium and not as was the rule in the tonsils, as an oleate of cholesterin. As Lamar and Flexner had recently shown* that this superabundance was probably one of the chemical steps in the resistance of the tissues to the bacterial infection in pneumonia by the pneumococcus and that it appeared in abundance in the cytolytic stage of resolution, it was interesting here to note in a lesion of crumbling protoplasm its predominance over other forms of fat and over the lipoids, in areas of disease associated with the presence of the Frisch bacillus. This, too, occurred in a case which was offering more than the usual resistance to the progress of a relentless and supposedly incurable affection. Dr. Strong, in this case, had done considerable work bacteriologically, in connection with other cases and he had repeatedly isolated a bacillus which had differed somewhat from those isolated from other cases in being a gas producer on certain media and in deviating complement in hæmolysis in a more feeble manner than the others. It was possible that this case would be the starting

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point in a more careful differentiation of the bacilli associated with such cases, hitherto considered of great rarity in this country. The existence of quantities of soap in the lesions might also prove no less significant.

Case 3. S. G., male, eighteen years of age, born in Russia. The family history, so far as was obtainable, revealed a similar condition in both his grandmother and his father. He also claimed that a brother had a somewhat similar condition in his nose, throat and ear. The patient entered Dr. Smith's clinic six months ago complaining of difficult breathing and a sore throat. Six years ago he had had a severe pain in his nose, which became continuous and more marked. He was operated upon twice in Newark for both the nasal and the throat conditions, the nature of which was not ascertainable. An examination revealed completely occluded nasal fossæ and a nodular appearance of the external tissues. The Wassermann test was negative. A microscopical examination of the blood and tissue demonstrated rhinoscleroma. He had had four injections of autogenous vaccine and was now receiving it twice a week. He also had had twenty-four applications of the X-ray. The pain had ceased and there seemed to be a moderate improvement. The external lesions in these three cases had been eradicated by the use of the X-ray and the vaccines had apparently held the progress of the internal lesions in abeyance.

Dr. L. W. Strong said that the ease with which the bacillus of rhinoscleroma could be recovered from the lesion and its profuse growth on simple media, made it well adapted for use as an antigen in complement fixation tests. The chronicity of the process also tended to the accumulation of antibodies in the patient's serum, so that rhinoscleroma was an ideal field for this test. Goldzieher and Neuber, using the Wassermann technique, concluded that the Bacillus Frisch was a different organism from the Bacillus Friedländer. The speaker had used the serum and cultures from Dr. Smith's cases and found with the Noguchi technique that the bacillus from case "A" would inhibit hæmolysis both with its own serum and with serum from case "B." Case "B" likewise would inhibit both sera. Again, both these sera inhibited hæmolysis in conjunction with a culture of Bacillus Friedländer obtained from another laboratory. The inhibitory effect was found to be more powerful with serum and bacilli from the same case than with the serum from one case and bacilli from another, or with the foreign Bacillus Friedländer. The speaker's conclusions were, then, that the Bacillus rhinoscleromatis of Frisch, was identical with the Bacillus Friedländer, contrary to the opinion of Goldzieher and Neuber.

Dr. Pollitzer said that up to a recent time no method of treament had beei successful. Several years ago a number of observers tried X-ray simultaneously and all reported improvement, but so far, none had reported a cure, with the single exception of a case which he had reported in The Journal last August, a case which had remained well to date, a period of four years. A good result might be expected in cases not too far advanced and where the lesions were accessible. All the evidence pointed to the Fraenkel bacillus as the cause of rhinoscleroma, though that organism seemed of little importance when occurring elsewhere.

Dr. Trimble said that he wished to thank Dr. Smith for the privilege of seeing these interesting cases and to call attention to one point in reference to treatment. He had had some success in treating various lesions of the mucous membrane with the X-ray in spite of the fact that the Roentgen ray was supposed not to be very efficacious in affections of the mucosa. One case that he recalled (an epithelioma involving the mucous membrane of both lips) was

so much benefited that he thought probably a more extended trial might be of service in cases such as Dr. Smith had shown.

Dr. MacKee said that he regretted the fact that both the X-ray and the bacterial suspensions had been employed at the same time for it was impossible to determine which agent had caused the improvement. Judging from the histories of the cases it was probable that both the lesions of the skin and those of the mucosa had been benefited more by the X-ray than through the use of the vaccines. In treating the external lesions with the Roentgen ray a certain amount of effect was bound to be produced on the throat manifestations by the ray passing through the tissues. Of course, the speaker said, this influence would be less than upon the external lesions unless the rays were administered in a certain way. Although it was true that a primary cancer of the mucosa would not, as a rule, yield to X-radiation, it was a well-known fact that an epithelioma having its origin in the skin and involving the mucous membrane would succumb to applications of the X-ray. Tuberculosis of the mucosa had frequently been cured by means of the Roentgen ray and, as Dr. Pollitzer had remarked, it was well known that the X-ray produced a marked influence upon rhinoscleroma, both of the skin and the mucosa. The speaker said that although advisable it was not necessary to apply the Roentgen ray directly to the mucosa, but that by employing a high vacuum tube and protecting the integument by a suitable filter, lesions of the nasal and buccal cavities, and of the throat, could be treated by allowing the ray to penetrate from the outside. Dr. MacKee had successfully treated several cases of tuberculosis of the mucosa in this manner, one of which had been presented to both the Section and the New York Dermatological Society for the purpose of demonstrating this technique. In so far as the vaccines were concerned he was of the opinion that better results might be obtained and unfavorable reactions avoided by a minute initial dose followed by the injection of gradually increasing amounts at intervals of five or seven days in order to produce immunity. Severe reactions were to be avoided for they usually indicated a severe and prolonged negative phase at the expense of the positive phase. What was required was a gradual upward tendency of the wave of immunity with very slight and short negative phases. In this way a final and prolonged positive phase or immunity would be reached.

Dr. Smith said that he felt sure the disease was caused by the Frisch-Friedländer-Ozæna bacillus. He agreed with Dr. MacKee that a separation of the treatment by X-ray from treatment by vaccines was necessary before one could establish the effects of either method. He had not been able to convince himself of the value of the vaccines, but they had seemed to him to hinder the progress of the lesions. He was sure that the X-ray caused the external lesions to disappear, but they had little or no effect on lesions of the mucous membrane, which might be due to the inabilty to apply the ray as successfully to the mucous membranes as to the external condition.

Lichen Planus. Presented by Dr. Pollitzer.

This was a case of unusually extensive lesions of lichen planus on a boy of ten years. The palms and the mucosa were free. In addition to the typical lesions of lichen planus, which covered almost the entire cutaneous surface, there were many lesions which resembled those of pityriasis rosea; flat, nummular, scaling, red patches. It was mainly on account of these lesions, which he had seen once before in a case of lichen planus, that the patient was shown.

Case for Diagnosis. Presented by Dr. Trimble.

The case was previously shown at the New York Dermatological Society on February 28th. The patient was a woman, twenty-six years of age, a native of Russia; single; a seamstress by occupation. There was a superficial, pinkish lesion about the size of a silver dollar on the left cheek and small infiltrated lesions on the forehead, which stood out prominently when the patient frowned. The duration of the condition was five years.

Dr. Pollitzer said that the mass under the right arm was an old lipoma and had nothing to do with the rest of the disease. The lesions on the forehead had been present for several years and were characteristic of Boeck's sarcoid in location, size and shape. The only unusual feature was the pale color and in respect to color, sarcoids differed considerably.

Dr. Trimble said that when the patient first presented herself at the clinic he had considered morphœa, lupus erythematosus and sarcoid in the order named, but was still unable to reach a decision. The large lesion on the cheek would, he thought, lead one away from the diagnosis of sarcoid, although the small lesions on the forehead bore some resemblance to that disease.

Case for Diagnosis. Presented by Dr. Trimble.

The patient was a woman, thirty-four years of age; occupation, housework; married; a native of Russia. She had a small nodule, slightly bluish in color, on the right breast. It was tender on pressure, and seemed to be adherent. The duration was five months. The lesion first appeared about one month after an operation for appendicitis. A small lesion could also be seen on the arm; this second one had existed one week. The case had been diagnosed as neurofibroma.

Lichen Planus Involving the Palms and Soles. Presented by Dr. Williams.

The patient was a woman, forty-eight years old. The disease began in December, 1910, on the hands. When first seen, a week ago, both hands and soles were involved, and there was a typical and profuse eruption of lichen planus on the trunk and extremities.

Demonstration of Apparatus.

An apparatus for the intravenous injection of salvarsan, devised by Drs. Howard Fox and William B. Trimble, was exhibited by Dr. Trimble. It consisted of several improvements on the well-known gravitation method. A detailed description could be obtained in the *Medical Record* for March 11, 1911.

Dr. Pollitzer said that one might see many types of apparatus, each differing in some minor detail from the preceding. An irrigator with a stop-cock at the outlet and a rubber tube and needle was really all that was required.

Charles Mallory Williams, M.D., *Secretary.*

CHICAGO DERMATOLOGICAL SOCIETY.

May, October, November and December, 1910.

DAVID LIEBERTHAL, M.D., *President.*

Blastomycosis. Presented by DR. ORMSBY.

The patient was a man aged thirty-six years and spoke only Polish, so an extended history was not obtained. The cutaneous lesions were of seven months' duration. There were three lesions present: one which was about two by one and three-quarters inches, occupied the surface of the outer half of both eyelids, extending over the malar eminence and involving a part of the temporal region. At the margins it was elevated, bluish-red, and many miliary abscesses were present. From here, extending toward the centre of the area, a papillomatous condition was present, while in the centre some superficial scar formation was noted. On the right hand was another lesion of about the same size, but which had undergone involution to a greater extent and, therefore, exhibited more scar tissue. Still another similar one was present on the right foot on the plantar surface of the arch. The causative organism was exhibited under the microscope.

Case for Diagnosis. Presented by DR. ORMSBY.

The patient was a man aged twenty-six, a native of Vienna, who had been in this country for four years. His cutaneous disease was of about twelve years' duration. It was unaffected by the seasons. The lesions began originally on the chest and gradually extended. The patient thought the lesions disappeared, but they were apparently very slow undergoing involution. When presented, the regions affected were the following: The trunk, both front and back, arms, forearms, thighs, and legs. The lesions were chiefly scaling patches. Large numbers were dime-sized and had fairly large, dark, adherent scales. Some smaller lesions were papular and reddish with lighter scales. There were no subjective sensations, nor had there been any in the past.

The majority of the members favored the diagnosis of parapsoriasis.

Lupus Vulgaris. Presented by DR. ORMSBY.

The patient was a woman aged fifty years. There was some evidence of tuberculosis in the family history. The cutaneous disorder began on the ear in childhood, and very slowly spread. During the last six years the entire surface of the ear became involved and with it a patch on the face extending over the parotid region. The entire area was of a dark-red color, scale covered and made up of a fusion of flat tubercles. No brown discoloration was present and the appearance of lupus erythematosus was simulated. The unusual features consisted in the small amount

of tissue destruction and the absence of distinct brownish nodules usually seen upon diascopic examination of lupus vulgaris.

Circinate Nodular Syphilide of Fifty Years' Duration. Presented by Dr. Anthony.

The patient was a farmer, sixty-four years old, presenting a circinate, ulcerating nodular syphilide, involving the posterior aspect of the left thigh. The eruption began as a nodule when he was fourteen years old and had steadily increased by peripheral advancement. None of the stigmata of hereditary syphilis was present and there was no history of venereal infection. The case was interesting because similiar ones were uncommon and there was a division of opinion as to whether they were cases of acquired syphilis or syphilis hereditaria tarda.

Sycosis Vulgaris with Scarring. Presented by Dr. Ormsby.

The diagnosis of lupus erythematosus having been offered in this case, made it of sufficient importance to be presented. The patient, Mr. R., was twenty-nine years of age; the duration of the disease was two years. The disease began as a small pustule in the lower lip which was evacuated. The lesions increased and spread until the upper lip and both cheeks in the bearded region were involved. Radiotherapy and other treatment had been used. On examination, several large scar areas were observed, which were irregular in outline. The entire bearded region was covered with crusts and much pus was present. The skin beneath the crusts was hypertrophic and thickened. Pustular folliculitis was present also in the eyelids.

Chancre of the Lip. Presented by Dr. Quinn.

Mr. F. S., twenty-six years of age, presented an indurated lesion on the lower lip, half-hazel-nut in size, a large submaxillary bubo, which had been present about six weeks and a macular exanthem on the body of ten days' duration. The patient was employed as a machinist in a factory, with about thirty-five others, where the drinking water was supplied in bottles and where the men were in the habit of drinking from the bottle without the use of glasses.

Lupus Erythematosus. Presented by Dr. Quinn.

This patient was a woman, thirty-five years of age, with a lesion on the nose about the size of a half-dollar and a few pea-sized lesions on the cheeks, which had persisted for two years.

Treatment with carbon dioxide snow was proposed.

Hereditary Syphilis. Presented by Dr. Waugh.

E. B., six years of age, had been referred to Dr. Ormsby's clinic. The child's general condition was good; the previous history was negative

as far as the present trouble was concerned. Six weeks before, the child had begun to complain of dimness of vision in the left eye; an examination revealed an iritis of marked degree. Physical examination otherwise was negative. Luetic infection was denied by both parents. The Wassermann test was positive.*

Raynaud's Disease Accompanied by Telangiectasia. Presented by Dr. Ormsby.

The patient was a young woman, aged twenty-seven; she was exhibited to the Society on February 15th, 1910, by the late Dr. James Nevins Hyde. At that time the fingers on the right hand were thickened, the distal phalanges were shrunken and distorted, presenting several areas covered with black eschars. The thumb and index fingers were worse; the left hand showed some distortion, but no active lesions; the right foot, several scaling areas; the great toe was purple and cold; the duration of the disease was ten years. When presented to the Society by Dr. Ormsby, the ulcers had healed and the general condition of the patient was much improved. The fingers were deformed, but the improvement here was also marked. The palms were the seat of numerous telangiectatic vessels.

Universal Psoriasis. Presented by Dr. Ormsby.

The patient, Mr. S. H., was twenty-three years of age. He was first seen at the Clinic of the Rush Medical College in 1905. At that time

*After six weeks of anti-syphilitic treatment the vision was normal.

lesions were limited to the palms and soles and hairy regions. The patient was shown before the Society about October, 1905. The lesions had gradually progressed with very little improvement at any time. When presented to the Society by Dr. Ormsby, the typical picture of universal psoriasis was present. The entire skin was reddened, scaly and showed much infiltration.

Blastomycosis. Presented by Dr. Ormsby.

The patient was thirty-nine years of age; the duration of the disease was seven years; he was a janitor by occupation, and was a County Hospital patient. The family and past personal histories were negative. The present trouble began seven years ago in three locations: First, on the right side of the chin; second, left pectoral region and third, left hypochondriac region. The first change noted was a nodule under the skin. These nodules were painless and soon became "boggy" and "spongy." After three or four weeks they became ulcerated and discharged purulent material. They spread peripherally. Some months following this, the ulcers which had occurred were excised and skin grafting employed. After three or four months, recurrence began in the first two areas above named. Four years ago the patient was seen at the Rush Medical College

Clinic and was later shown before this Society. About the neck were groups of flat papular tubercles covered with crusts or with small papillomatous projections. These were arranged in segments of circles and suggested very much the appearance of rupial syphilides. Marked scarring was present over the right side of the neck and chin. In the left axilla many large lesion were present, all of which were papillomatous. On the left side of the neck, extending into the bearded region, was a typical area of blastomycosis with its elevated margin, verrucous and papillomatous top and abscesses in the border. Blastomycetes were demonstrated with the microscope.

Raynaud's Disease Accompanied by Telangiectasia. Presented by Dr. Ormsby.

The patient was a woman, forty-three years of age, married twenty-three years, but had had no children. Aside from an attack of peritonitis, she always had been in good health previous to the present trouble. Twenty years ago the face became covered with scales which lasted for five years. At the end of five years purple spots began to appear on the face varying in size from a pinhead to that of a pea. These occurred in successive crops. No subjective sensations were present. Coincident with the appearance of the lesions on the face, firm, deep nodules appeared on the extensor surfaces of the forearms near the elbows. One of these opened spontaneously and a thick whitish material escaped. Similar lesions occurred on the knees. When the patient was exhibited, practically all of the joints of the fingers were enlarged and were painful at intervals. This condition had been gradually developing for ten years and had been much worse for several months. The hands and feet were cold habitually. The movements of the joints were largely interfered with and several deep ulcers were present. Considerable deformity of the fingers was present and the skin was smooth and glossy. At times the patient stated that the fingers were perfectly white and at other times bluish. Cold weather caused extreme suffering. A Wassermann reaction performed on September 12th was negative. The entire face, ears and neck were the seat of marked telangiectasia.

The diagnosis of tuberculide was suggested.

Syphilis Treated with Salvarsan. Presented by Dr. Schmidt.

The patient was a teamster, twenty-three years of age; he was unmarried. There was a history of gonorrhœa and of chancroids. About Sept. 1st, 1910, he developed a chancre on the lower lip. On September 24th, he noticed an eruption on the abdomen, forearms and arms. There were, also, mucous patches in the mouth at this time and general adenopathy. On September 25th, he was injected with salvarsan. Gradual improvement followed, but the rash persisted, under various manifesta-

tions. On November 18th, he was reinjected with "606." The slow improvement continued. On December 4th, treatment with oleum cinereum was commenced. On that date his Wassermann reaction was slightly positive. On Jan. 1st, 1911, he showed the first completely negative examination, after four injections of oleum cinereum. Up to the time of his presentation to the Society he had had thirteen injections.

Syphilis Treated with Salvarsan. Presented by Dr. Schmidt.

The patient was a switchman, twenty-nine years of age and unmarried. The initial lesion appeared about Aug. 1st, 1910. A typical eruption followed in due course, with pharyngitis, mucous patches and adenopathy. He received two inunctions of mercury, and then, on November 11th, was injected with "606." On that day the Wassermann reaction was very positive. On November 13th, the body and extremities were free from the eruption, the glands were markedly reduced and the initial lesion much improved. The mucous patches on the tonsil and buccal mucous membrane still persisted. On November 20th, the mucous patches were still present and treatment with oleum cinereum was commenced. On November 22nd, he developed a few papules on the forehead. The mucous patches gradually improved. On December 18th, he showed the first negative examination, after four injections of oleum cinereum. Fifteen injections of oleum cinereum had been given up to the time the case was presented to the Society, and in addition, he was taking protiodide pills.

Syphilis Treated with Salvarsan. Presented by Dr. Foerster.

The patient was an undersized, poorly developed man, thirty-five years of age, with a history of specific infection in February, 1898. He had been treated almost continuously with mercury internally, by inunction and injection and potassium iodide for twelve years. Within eighteen months after the infection, ulcerating lesions of the face and scalp developed and persisted in appearing in spite of treatment until almost the entire scalp and cheeks were converted into scar tissue, with numerous cutaneous gummata and tuberculo-ulcerative lesions on the scalp, face and neck. Two and one-half years ago an elephantiasis of the upper lip developed. The Wassermann reaction was positive. On November 10th, 0.4 gm. of "606" in alkaline solution were injected into both buttocks, following which there was but slight pain of short duration. On the second day a zoster developed on the right buttock. On the fifth day the lesions were intensely congested and from that time on, rapid healing occurred, so that at the end of twelve days, the lesions had almost entirely disappeared. Twelve days after the injection the Wassermann reaction was strongly positive and on December 10th, it was negative, with all the

lesions healed. The elephantiasis of the upper lip had practically disappeared and the patient had gained twelve and one-half pounds in weight.*

Syphilis Treated with Salvarsan. Presented by Dr. Lieberthal.

The patient was a male, thirty years old. Two weeks after a venereal exposure, a sore developed and about six weeks later a rash appeared all over the body. A few days later he presented himself at the Michael Reese Hospital with the following symptoms: On the left side of the coronary sulcus there was a bean-sized, elongated sclerosis; general adenopathy; copious macular eruption all over the body; pustular lesions on the scalp; papulo-pustules on the forehead, cheeks and on the back above the scapulæ; sore throat. Spirochætæ findings and the Wassermann test were positive. On the following day, Sept. 21, 1910, 45 cg. of "606" in neutral suspension after the method of Wechselmann, were injected, one-half intramuscularly into the right buttock and one-half subcutaneously between the scapulæ. Pain and swelling in the places of injection were present from the second to the eighth day, being most severe from the second to the fifth day. Fever lasted from the second to the sixth day and ranged between 99° F. and a fraction to 101.8° F.; the highest temperature was noted on the second day. The primary lesion was reduced in three days to one-half and in six days to nearly one-third of its original size. The macular eruption disappeared seven days after the injection. The pustular lesions healed completely in one week. The papular bases of the latter, however, remained unaltered for three weeks. Three days after the injection the inguinal glands increased in size and became somewhat sensitive. This lasted for two days. A Herxheimer reaction was also noted on the fourth day around the papulo-pustules on the forehead, lasting about ten hours. Spirochætæ were found in the papules after six days, while the Wassermann reaction remained positive forty-one days, at which time a remnant of the primary lesion was still present.

*On January 16th, that is, sixty-seven days after the injection, the Wassermann reaction was again positive, although the patient was in all respects much improved physically. He slowly continued to gain in weight and the lesions were all healed.

Ernest L. McEwen, M.D.,
Secretary.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of George M. MacKee, M.D.

SYPHILIS OF THE SKIN AND MUCOUS MEMBRANES, ATROPHIES, HYPERTROPHIES, MALIGNANT AND BENIGN NEW GROWTHS.

By Udo J. Wile, M.D., New York.

Concerning the Skin Lesions of Myelogenous Leukæmia and the Malignant Granulomata. E. Bruusgaard, *Arch. f. Dermat. u. Syph.*, 1911, cvi, No. 1, p. 105.

This paper is an excellent critical review based mainly on the histopathology of the various dermatoses associated with the leukæmias, pseudo-leukæmias and the malignant granulomata. Included in the article are the reports of two cases observed by the author. The first case was that of a fatal myelocytic leukæmia, in which metastatic tumors, resembling in their histology the blood picture of the disease, occurred in the skin. Such a "colonization" of myeloid cells the writer believes not to have been hitherto described. The second case was that of a young man with lymph gland tumors, whose blood picture was that of a polynuclear leucocytosis and who died after a brief illness, with progressive cachexia and fever.

In this case, as in the other, metastatic skin tumors occurred in the form of cutaneous and subcutaneous nodules and papules. The histology of such tumors showed the picture of typical granulomatous tissue, *e.g.*, lymphocytes, plasma cells, eosinophiles and fibroblastic cells. This case Bruusgaard classifies as a typical example of malignant granuloma. The number of such cases as this last one is increasing in the literature, due to the fact that many cases formerly reported as pseudo-leukæmia, Hodgkins disease, lymphoma malignum, and lymphosarcoma, have by differential staining methods shown themselves microscopically to be granulomata. Under careful scrutiny, the various cases reported as malignant granuloma, or lymphosarcoma, suggest that various ætiological factors and, indeed, various diseases are included with these groups. Certain of these cases in their clinical course, resemble lymphatic pseudo-leukæmia, or in their later development lymphosarcoma, but must be distinguished from them by their different histopathology; others stand in a much closer relation to the infectious diseases, and in this connection, tuberculosis certainly plays a very important rôle.

Concerning Myomata of a Destructive Character. F. R. Hayn, *Arch. f. Dermat. u. Syph.*, 1911, cv, No. 1, p. 211.

Malignant muscle tumors, according to the author, may be divided into the two following general classes: 1. Myosarcomata—mixed tumors, of either endomyomatous or ectomyomatous origin. 2. True malignant myomata—tumors of uniform structure, subdivided into: A. malignant myomata, with slight or no structural deviation from "normal" myomatous tissue, but showing their malignity in metastases and invasive growth, and B, sarcomatous myomata, of myoblastic or myogenic development which, together with a malignant clinical picture, show corresponding microscopic changes. Between these two general classes a large number of intermediate cases occur. The author's own case, which is described in great detail, is according to him exceptionally rare and in accordance with the above scheme would be classed in the second group, as a sarcomatous myoma.

A Case of Nævus Pringle and Neurofibromatosis. A. Hintz, *Arch. f. Dermat. u. Syph.*, 1911, cvi, No. 1-3, p. 277.

The writer reports the case of the von Recklinghausen symptom complex, combined with adenoma sebaceum (nævus pringle). The patient was a young woman of poor mental development and both types of the lesions had existed since childhood. On the one hand were the characteristic, reddish tumors on the face and papillomata on the distal phalanges of both fingers and toes; on the other, there were soft fibromata, in places pedunculated, in places with broad bases, situated on the neck and trunk, together with disseminated pigment spots and kyphoscoliosis. The assumption is that both conditions are associated with faulty development; the author is, therefore, constrained to give up the name adenoma in favor of that of nævus, in accordance with the views of Jadassohn, Riehl and Reitmann.

Lues Leucoischæmia; a Rare Syphilitic Exanthem. August Brauer, *Arch. f. Dermat. u. Syph.*, 1911, cvi, No. 1, p. 85.

A hitherto undescribed secondary syphilide is herein reported. The eruption occurred in a woman of eighteen years and consisted of efflorescences, varying in size, macular, sharply demarcated and of a white, glistening appearance. They occurred in large numbers on the arms, forearms and hands and scattered lesions were also found on the trunk. The lesions were distinctly annular, they spread peripherally and disappeared by healing in the centres. The histopathology showed slight perifollicular and perivascular infiltrations with round cells and thickening of the capillaries and smaller vessels. Pressure under glass of the lesions and the surrounding healthy skin, causes their outline to disappear, this being

due to the expression of the blood from the normal skin. The white color of the lesions, therefore, is not dependent upon a depigmentation, as in leuco-atrophy, but is due to a local ischæmia. The eruption was further characterized by prompt *restitutio ad integrum* under anti-syphilitic treatment. The Wassermann reaction, taken when the eruption appeared was positive, although it had previously, under energetic treatment, become negative. This fact, together with the rapid disappearance under specific medication and the fact that the involution is in places followed by pigmentation speak, according to the author, for the syphilitic nature of the disease.

A Severe Complicated Case of Syphilis in Which Three Different Secondary Eruptions Occurred in Succession. George Pernet, *Arch. f. Dermat. u. Syph.*, 1911, cvii, No. 1-3, p. 135.

Writing in the *Festschrift* for Prof. Welander, the author reports the case of a young man in whom, during a period of two years, the following three outbreaks occurred: 1. A papular, grouped syphilide, becoming ulcero-gummatous and leaving scars with hypertrophic cicatricial formation. 2. A circinate and gyrate syphilide. 3. A psoriasiform, polymorphous syphilide. The patient had first presented himself for a typical copaiba rash, at which time the primary sore, as well as a florid gonorrhœa, was diagnosed. The writer advances the hypothesis that the copaiba rash antedating the appearance of the syphilides, may have been a factor in rendering the latter destructive.

Concerning Lymphodermata and Mycosis Fungoides. P. L. Bosellini, *Arch. f. Dermat. u. Syph.*, 1911, cviii, No. 1, p. 83.

This monograph is a very thorough and critical study of the lymphodermata and of mycosis fungoides. The first part of the paper deals with a review of the cutaneous manifestations of leukæmic and pseudo-leukæmic processs and other affections in which altered structure or function of the hæmo-lymphopoietic organs seems to be the underlying process. In the second part of the paper, the author presents a bibliographic, clinical, histological and hæmatological study of mycosis fungoides.

Syphilitic Superinfection. Fritz Lipschütz, *Arch. f. Dermat. u. Syph.*, 1911, cix, No. 1, p. 3.

Lipschütz in this article gives a very critical though somewhat lengthy review of the subject of syphilitic immunity, together with superinfection and reinfection. The former term Lipschütz employs to designate those cases in which a new primary lesion occurs together with florid secondary manifestations following a previous primary lesion. All other cases are then manifestly reinfections. Of such he has collected 357 cases from

the literature. True cases of superinfection, however, are very much more rare; in fact, according to the writer, Jonathan Hutchinson's case and the two reported by the author in this paper are the only ones in the literature which will stand close scrutiny as cases of real superinfection. Both of the herein reported cases occurred in young men who presented typical, hard chancres, coincident with florid secondary lesions. In the one case the original chancre had been diagnosed five months previously by a colleague; in the second case the second chancre followed two months after the appearance of the first. In both cases the histopathological picture of the excised lesions was that of a chancre; the spirochætæ pallidæ were present in large numbers and the Wassermann reaction was strongly positive.

RESOLUTION.

IN MEMORIAM.

Dr. Frank Pierce Foster.

The members of the New York Dermatological Society hereby unite in placing a wreath of laurel upon the grave of Dr. Frank Pierce Foster. His scholarly attainments and his genial personality long since won the admiration and the affection of every one of his colleagues.

Dr. Foster was born in Concord, N. H. in 1841 and began the study of medicine when fifteen years of age. He entered the Harvard Medical School in 1859, and graduated at the College of Physicians and Surgeons in New York in 1862. His attention was first devoted to dermatology and he was one of the founders of this Society and an active member for many years. Later he became more interested in obstetrics and gynæcology. In 1870 he introduced bovine vaccination in this country and wrote ably on various dermatological subjects. In recent years, he became more widely known as an editor, lexicographer and a contributor to a broader field of medical literature. From 1880 to his death, he was the editor of the *New York Medical Journal* and exerted a powerful influence by virtue of this position. His death on August 13, 1911, resulted from cancer of the throat from which he had suffered for over two years.

For a quarter of a century this Society was singularly free from any loss of membership by death. Then in a short space of time the names of Charles W. Allen, Robert W. Taylor, Henry G. Piffard and Sigmund Lustgarten were stricken from our muster roll. To these names must now be added that of our late honorary member Frank P. Foster, in further proof of the truth of the old adage, "Death loves a shining mark."

George Henry Fox, M. D.
George T. Jackson, M. D. } *Committee.*
Edward B. Bronson, M. D.

BOOK REVIEWS.

Diseases of the Skin. By James H. Sequeira, M. D., Lond., F. R. C. P., Lond., F. R. C. S., Eng. Physician to the Skin Department and Lecturer on Dermatology at the London Hospital; Editor of the *"British Journal of Dermatology,"* etc., etc. With 44 plates in color and 179 other illustrations. Philadelphia, *P. Blakiston's Son & Co.,* 1012 Walnut Street, 1911.

The war of classifications is fortunately ended, but the vexed questions involved have never been satisfactorily settled. While almost any man can arrange books on his own shelves to suit himself, others will criticize the arrangement because the French and German works are mixed, because the red and the black covers would look better in groups or alternated. This is the case with classification of skin diseases. While a perfect arrangement of books according to size or binding is possible, no complete and satisfactory arrangement of dermatoses can be made at the present time on any known basis.

The ætiological plan which is adopted by the author in the present work is an ideal one, but it is very doubtful whether the student will find this arrangement as simple as the modified classifications of Hebra used by Crocker, Hyde and most text-book writers. To illustrate the confusion which results from this attempt at an ætiological classification it is only necessary to note that our author describes urticaria under the toxic eruptions, places urticaria papulosa among the neurodermatoses and considers urticaria pigmentosa as a tumor of the skin. Even under the assumption that their ætiology varies greatly, their clinical features are so much more important than their cause that for didactic purposes it would seem much more practical to place them together in a pathological group or even in an alphabetical list.

The text of the work is written in a concise and agreeable style and presents to the reader the latest facts and theories of modern dermatology. The illustrations are numerous and for the most part, excellent. The photographic plates taken directly from the patients by means of the three-color process, like most reproductions of this class are apt to be somewhat over-colored and a few are injured by the bright patches of blue and red in the background. The black and white half tones, on the other hand, are, with a few exceptions, worthy of the highest commendation and many of them are admirable examples of perfection in the art of illustrating skin diseases. G. H. F.

A Working Manual of High-Frequency Currents. By Noble M. Eberhart, M.D. Chicago, *Medicine Publishing Co.,* 1911.

This book is evidently intended for the medical student and the beginner in the practice of medicine. It is a concise and easily understood exposition of the uses of the high-frequency currents in the treatment of various diseases in a great many of which these currents are useful adjuvants to other forms of therapy. To those whose course in medicine did not include the teaching of the applications of electricity in disease, the book will prove to be quite useful; but for a thorough understanding of the subject, a more scientific work must be read, in order to gain some knowledge of the action of high-frequency currents on unhealthy tissues.

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SYMPOSIUM
ON THE
TOXIC DERMATOSES.

TOXIC DERMATOSES: DERMATITIS HERPETIFORMIS, PEMPHIGUS AND SOME OTHER BULLOUS AFFECTIONS OF UNCERTAIN PLACE.*

By M. B. Hartzell, M.D., Philadelphia.

Professor of Dermatology in the University of Pennsylvania.

NO fact in the entire domain of the ætiology of disease is better established than the toxic origin of certain cutaneous eruptions. It has long been known that eruptive lesions of very varied character may follow the ingestion of certain articles of food and of a considerable number of drugs, in individuals exhibiting a certain predisposition; and the number and variety of such substances capable of giving rise to toxic symptoms on the part of the skin and the frequency of these toxic eruptions, has been enormously increased in recent years through the introduction of a great number of synthetic drugs, largely coal-tar derivatives, and the employment of an entirely new class of therapeutic agents, the serums.

For the sake of convenience of discussion, toxic dermatoses may be divided into two groups, the first comprising such affections as erythema multiforme, urticaria, the eruptions produced by drugs and serums, in which the toxic character of the affections is defini-

*Read before the 35th Annual Meeting of the American Dermatological Association, May 25-27, 1911.

tely known and therefore undisputed; the second, comprising such diseases as dermatitis herpetiformis, pemphigus, and certain other bullous diseases of somewhat uncertain place, in which the definite proof of their toxic origin is yet lacking to a considerable degree. With the members of the first group I shall not concern myself at this time, but shall limit my remarks to a discussion of the relationship of the members of the second group to those of the first and to one another and to a brief consideration of the evidence of their toxic nature.

That a more or less intimate relationship exists between the several members of these two groups of diseases will scarcely be denied by anyone; and between no two is this relationship more apparent at times than between dermatitis herpetiformis and erythema multiforme, a relationship shown not only in the similarity of the lesions characterizing the eruptions, but in the course of the two diseases. This relationship was early and fully recognized by Dr. Duhring and one of his later papers on dermatitis herpetiformis is devoted to a discussion of this relationship. In this paper, entitled, "The Relation of Dermatitis Herpetiformis to Erythema Multiforme and to Pemphigus," he remarks: "The two diseases that bear the most likeness to dermatitis herpetiformis are erythema multiforme and pemphigus . . . Not only are both diseases strikingly polymorphic in their manifestations, but they are, moreover, allied in nature." (*Amer. Jour. Med. Sci.*, February, 1897.) Cases are not uncommon in which the most experienced observer finds himself at a loss to decide whether they are to be placed with the former or the latter of these two affections, even in some instances after a somewhat prolonged observation. The records of every dermatological society contain examples of the difficulty which may exist in separating these two diseases. Colcott Fox, Galloway, Radcliffe Crocker, and other equally experienced observers have from time to time exhibited cases at the meetings of the London Dermatological Society and of the Dermatological Section of the Royal Society of Medicine, in which no definite differential diagnosis could, for the time at least, be made. Nor is this resemblance merely an external one, confined to the character of the eruption and the course of the maladies, but it extends to their histopathology, which in all essential particulars is much the same.

A close relationship, perhaps even closer than that existing between erythema multiforme and dermatitis herpetiformis, exists between urticaria and the latter. Urticarial lesions which differ in no

respect from those commonly observed, occur with considerable frequency in many cases of dermatitis herpetiformis at some stage or other, more frequently perhaps in the early than in the late stages. Such relationship is most strikingly illustrated by the case reported by Tennesson (*Ann. de dermat. et de syph.*, 2nd Ser., x) which began as an urticaria apparently of the ordinary type and continued as such for fifteen days, when the wheals were replaced by vesicles, the disease from this time pursuing the usual course. Cases of this kind compel the conclusion that, in some instances at least, the ætiology and pathogenesis must be essentially the same in the two maladies.

With the acceptance of dermatitis herpetiformis as a distinct and separate clinical entity by most dermatologists, it seemed for a time as if the term pemphigus was about to disappear from modern dermatological literature, the cases which had hitherto been assigned to this category being classified under the bullous form of the former affection. Indeed, the term dermatitis herpetiformis for a while served as a kind of dermatological "catch-all" into which were cast all those cases of bullous eruption which could not readily be classified under any other name and it was made to cover a far greater extent and variety of cutaneous disease than was ever contemplated by the distinguished author with whose name the affection is indissolubly associated. The French school of dermatology, headed by Brocq, was especially enthusiastic and active in taking up Duhring's views which it not only accepted unreservedly, but greatly elaborated. The Vienna school on the contrary was and still is, ultraconservative. In Mracek's Handbook of Dermatology, which may be regarded as presenting the latest views of this school, dermatitis herpetiformis is discussed only in the section devoted to pemphigus and the author of this section still adheres to the position maintained by Kaposi until his death, that all the cases of this malady may very well be included under erythema multiforme and pemphigus. Largely as the result of the discussion carried on through the past twenty-five years concerning the relationship of the various bullous dermatoses to dermatitis herpetiformis, there has been a strong tendency in recent years to restrict very much the use of the term pemphigus. There are certain cases of bullous disease, however, which present such a group of symptoms as to set them apart from bullous dermatitis herpetiformis, although there is frequently a very close resemblance to this latter malady both in the eruption and in the course which they pursue. The symptoms are so uniformly of one kind in each

recurrence in these cases, that we cannot fail to recognize that they represent an affection more or less distinct from all others and are, therefore, entitled to a separate place in cutaneous nosology.

In every discussion concerning the nature and causes of pemphigus it is of great importance to determine whether all the so-called varieties are actually only varieties of one and the same malady, or whether they are only nearly related, but more or less distinct, diseases. I do not believe in the present imperfect state of our knowledge, any very definite conclusion concerning this point is possible, but it is extremely probable that even if these several varieties do not represent variants of the same affection, the majority of them at least represent diseases which are related to one another in the closest manner, both as to their ætiology and pathogenesis. Acute pemphigus is, in all probability, to be separated on ætiological grounds from the other forms, at least in many if not in all cases. Pemphigus neonatorum, in my opinion, ought not to be included in the category of pemphigus at all. It almost certainly represents impetigo contagiosa as it occurs in new-born or very young infants and is related to the other members of the pemphigus group only by a purely external resemblance.

Much stress is laid by many authors at the present time upon uniformity of lesions as a necessary symptom in the diagnosis of pemphigus—the lesions must be bullæ always and nothing else, or there can be no pemphigus. In certain cases the presence of erythematous patches associated with bullæ is, in the opinion of some authors, sufficient ground to reject the diagnosis of pemphigus for that of dermatitis herpetiformis. But everyone who has at all closely watched a case of chronic pemphigus through several recurrences must have noticed that, while in the first few days of an acute exacerbation the eruption is a purely bullous one, later, when the toxine has to a considerable degree spent its force, the blebs are less and less well formed until at the end of the outbreak, instead of bullæ we have erythematous patches with here and there a poorly developed, often flaccid bleb. This is, however, quite another thing from the multiformity commonly observed in the eruption of dermatitis herpetiformis; indeed, it scarcely deserves to be called multiformity at all since the erythema in this instance represents only a milder degree of effusion than the bleb—both are but different degrees of the same pathological process.

There is still another group of bullous affections whose classification presents great difficulties and whose place is still very un-

certain; I refer to those in which a polymorphous eruption consisting of erythema, vesicles and blebs, follows vaccination and infected wounds. While these oftentimes present great variations in their external symptoms, sometimes resembling erythema multiforme, at other times most like dermatitis herpetiformis, and not infrequently practically indistinguishable, so far as the eruption is concerned, from pemphigus, yet they all are much alike in their course, usually lasting some months and even at times, years, characterized by acute exacerbations with periods of more or less complete freedom from eruption. It seems likely that this entire group is more nearly related to pemphigus than to any other of the bullous diseases; indeed, in my opinion there seems to be no reason why a considerable number of these cases should not be included in this category.

In discussing the ætiology of dermatitis herpetiformis, Duhring, after referring to the many causes to which the disease has been attributed by various authors, such as strong emotion, nervous shock, mental strain, sepsis and toxines of various kinds, concludes that while the malady may be due to a variety of causes, "the nervous system is directly responsible for the cutaneous manifestations." Brocq in like manner regards the nervous system as playing an important rôle in its production. Hyde, after enumerating many possible causes, nervous shock, mental disturbance, anger, fright, pregnancy, the puerperium, septicæmia, fatigue, exposure to cold and deficient renal activity, remarks that, "it is possible the irritation of the nervous system may be due in every case to a toxæmia." Leredde asserts that a marked increase in the number of eosinophiles in the blood is a constant symptom of dermatitis herpetiformis and that this eosinophilia determines secondarily the cutaneous eruption in the lesions of which there are always found large numbers of eosinophiles. This eosinophilia is due, according to this author, to the irritant action of toxines upon the blood-forming organs and tissues, more particularly upon the bone marrow, and for this reason he regards the affection as a toxæmia. I think it is pretty generally agreed at the present time, however, that eosinophilia, while usually present in dermatitis herpetiformis, is by no means always so and that its importance has been greatly overrated by Leredde, Hallopeau and other French authors. Indeed, I happen to have a typical case of this disease under my care at the present moment in which repeated blood counts made during an acute exacerbation of marked severity, failed to disclose any abnormal number of eosinophiles. While the theory that the nervous system plays an important, if not the chief,

rôle in the ætiology of this disease is still maintained by many writers, the view that it is primarily a toxæmia to which the nervous symptoms are secondary, has gained many supporters in recent years. A considerable amount of evidence has accumulated, evidence in some cases amounting to proof, that various toxic substances may give rise to an affection presenting all the clinical symptoms of dermatitis herpetiformis.

In 1898, Danlos reported to the Société française de dermatologie et de syphiligraphie, the case of a man in whom the administration of potassium iodide produced an eruption of vesicles, bullæ and erythematous patches accompanied by intense pruritus. This eruption continued to appear for six weeks after the suspension of the drug. Leredde, to whom the microscopical study of the case was entrusted, found great numbers of eosinophiles in the blood and in the fluid contents of the bullæ; and upon the presentation of the case he expressed the opinion that it was not one of ordinary vesico-bullous iodide eruption, but a true case of dermatitis herpetiformis (*Ann. de dermat. et de syph., 3rd Ser., ix*). Some years later, Balzer and Sevestre reported to the same society a case of dermatitis herpetiformis which had followed immediately upon an acute mercurial intoxication resulting from the use of mercurial inunctions for pediculosis pubis. After the local use of a large quantity of mercurial ointment an acute erythemato-bullous dermatitis appeared in the genital region and in the axillæ, which within a day or two spread to the anterior portion of the thorax and to the scalp. In addition to this eruption there was an acute stomatitis and albuminuria. At the end of a month, when the patient had apparently quite recovered, there suddenly appeared over the whole body an eruption of erythematous plaques, which shortly became the seat of numerous bullæ; and for two years the patient suffered from similar eruptive attacks at short intervals. There was a moderate eosinophila and each attack was preceded by a marked diminution in the quantity of urine excreted (*Bull. Soc. franc. de dermat. et de syph.*, Feb., 1909). MacLeod has reported a case of dermatitis herpetiformis following an unusually large dose of mercury-with-chalk. The patient was a boy, five years old, who had taken eighteen tabloids, each containing one-half grain and the day following a circinate group of papulovesicles appeared in the lumbar region and this was followed by other groups in the neighborhood. This attack lasted about three weeks; there was then an intermission of a fortnight, when a new attack began which continued until the presentation of the case at a meet-

ing of the Dermatological Section of the Royal Society of Medicine, five months after the beginning of the disease (*Brit. Jour. Dermat.*, Sept., 1909). In the case already referred to, reported by Tennesson, which began as an urticaria, an acute exacerbation followed the administration of some grammes of sodium salicylate.

It may be objected that such cases as the foregoing are not actual cases of dermatitis herpetiformis, but examples of drug eruption. I should not, however, regard such objection as well-founded for a number of reasons. In the first place, the eruption continued to appear in some instances for months and even for one or two years, after the taking of the drug, when every vestige of it must have long ago disappeared from the tissues and fluids of the body. Indeed, in cases such as these, the cutaneous disease in all probability was due, not directly to the drug itself, but rather to some toxine resulting from the metabolic disturbance induced by it. Again, the classification of the entire group of the diseases which we are considering is not an ætiological one, but one resting upon symptoms and histopathology. The urticaria arising from the administration of antipyrin is no less an urticaria than that which follows the ingestion of shell-fish or strawberries, or which results from some emotional cause. These cases, then, may be properly regarded as examples of dermatitis herpetiformis resulting directly or indirectly from the introduction of toxic substances into the body from without.

In another group of cases the disease results from toxines produced within the body itself, either decomposition products formed in and absorbed from the gastrointestinal canal, or toxic materials formed within certain of the organs and tissues of the body concerned in the processes of metabolism. Probably one of the best examples of this variety of dermatitis herpetiformis is that known as herpes gestationis. This affection, although it has been reported as occurring at other times, is so commonly associated with pregnancy that there can be no doubt of the relationship between this condition and the eruption. During the period of gestation, toxæmias of varying kind and degree are especially prone to occur; indeed, these form the largest part of the dangers which so frequently seriously compromise the life of the pregnant woman. I am quite well aware that there are those who regard the nervous system as the prime factor in the production of the eruption, but with our present knowledge it is much more reasonable to look upon the nervous disturbances, which so commonly occur in pregnancy, as only additional evidence that the patient is suffering from a more or less profound toxæmia.

Toxæmias may arise not only from autointoxication, but from absorption of bacterial toxines from localized foci of infection; and a considerable number of cases reported in the dermatological literature of the past twenty years make it extremely probable, indeed, make it practically certain, that dermatitis herpetiformis is occasionally produced in this manner. As illustrative of this form of the affection I may refer to the case reported recently by Bogrow, in which an acute dermatitis herpetiformis appeared in a woman suffering from carcinoma uteri accompanied by an offensive vaginal discharge. Improvement of the eruption began with the employment of disinfectant vaginal douches and the skin affection came to an abrupt end with the surgical removal of the partly necrotic cancerous mass (*Arch. f. Dermat. u. Syph.*, xcviii).

The theory that pemphigus, like many other bullous diseases, is in some way closely dependent upon disturbance of the central or peripheral nervous system, is one widely prevalent in dermatological literature and one which, until quite recently at least, has occupied the first place in every discussion of the causation of this malady. Even to-day, when the tendency of many authors is to regard it as toxic in nature, what may be called the neurotrophic theory numbers quite as many supporters as the theories of antointoxication and infection. Indeed, even many of those who accept more or less fully the theory that it is an autotoxication, do so with a certain amount of reserve, inclining to the belief that the toxæmia arises from faulty metabolism, the direct result of disturbed innervation of the tissues and organs of the body, or from absorption from the gastrointestinal canal of toxic substances whose formation is made possible by a similar failure of nerve function. A contributor to one of the most recent systems of dermatology regards the theory of its origin from some disturbance of the nervous system as the best supported by the evidence, the nerves acting either directly to produce the eruption or through the intermediation of toxines produced by abnormal innervations; he concludes, however, with the remark: "The truth is that we actually know nothing at all concerning the ætiology of pemphigus." Jarisch thought the view that pemphigus was due to some poison had much in its favor, although he also thought it should not be overlooked that there was not a single chemical fact known which could be utilized in its support. As I have already remarked, there seems to be but little doubt that the acute form of pemphigus is a toxæmia due to a general infection. The evidence for the infectious character of this form of the disease,

while not absolutely conclusive, is well-nigh so, the cases reported by Pernet and Bulloch, Bowen and others admitting of scarcely any other intepretation.

In the chronic forms of pemphigus, the Bacillus pyocyaneus has been found by a number of observers. Pernet and Winfield report cases of pemphigus vegetans in which this organism was present. Low found it in pemphigus foliaceus and Petges and Bichelonne in what they regarded as a case of true chronic pemphigus. None of these authors, however, with the exception of the last named, regarded this organism as the cause of the disease. Bruck (*Arch. f. Dermat. u. Syph.*, xciii) who has quite recently studied two cases of pemphigus vulgaris by biological methods found, that while the contents of the blebs were sterile, they contained a streptococcic toxine (streptolysin). When the fluid from such sterile blebs was inoculated into the skin of pemphigus patients during the intervals between the exacerbations when they were free from eruption, blebs appeared at the site of the inoculation and in its immediate neighborhood within twenty hours; but if the same fluid was inoculated into the skin of other individuals free from cutaneous disease the result was completely negative. It is of interest to note that this toxine, streptolysin, was not present in the lesions of dermatitis herpetiformis. As the author justly observes, the number of cases was too small and the experiments too few to permit any reliable conclusions to be drawn from them; but so far as they go they point unerringly to the presence of a toxæmia of bacterial origin. Such studies as these ought and no doubt will, clear up in the not very distant future many of the obscure points in the nature and causation, not only of pemphigus, but of the entire group of bullous affections.

Although there is a considerable amount of reliable evidence in support of the toxæmic theory of pemphigus, evidence which is steadily growing, we must admit that, as yet, this theory rests upon the evident close analogy between pemphigus and other bullous dermatoses of known toxic nature rather than upon the actual demonstration of its correctness.

The toxic character of the post-vaccinal eruptions and those which occur as the sequel of septic wounds, is so generally admitted that any extended discussion concerning their nature would be a work of supererogation. Their toxic nature being admitted it yet remains, however, to be determined whether the cutaneous lesions are directly due to a bacterial toxine or whether they are the result of an autointoxication from metabolic disturbances brought about by

precedent infection. In other words, are they the direct result of the infection with which they are associated, or are they only the secondary consequences of such infection?

To conclude this hasty and inadequate review of some of the toxic dermatoses, I believe that they, as well as those belonging to what I have designated the first group, are toxæmias due to a great variety of toxic substances which may be introduced into the body from without, may arise from autointoxication, or from local or general bacterial infection; and that, although they differ from one another sufficiently in their symptomatology and course to entitle them to be considered as separate and distinct affections, they are essentially one in their pathogenesis.

THE INFLUENCE OF ANAPHYLAXIS IN TOXIC DERMATOSES.*

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THE view is no longer held by dermatologists that erythema multiforme and urticaria are distinct entities, but that they are cutaneous reactions due to irritants of manifold origin. While multiform erythema is probably always of internal causation, the factors productive of urticaria may be either endogenous or exogenous. Although these factors are well known and it has for a long time been recognized that a special susceptibility on the part of the individual must be invoked, it is only within the last few years that an attempt has been made to explain the nature of this so-called idiosyncrasy.

Recent advances in biological investigation have contributed no small share to the elucidation of obscure dermatological problems, giving us a clearer conception of underlying causes and suggesting lines along which we may hope for further progress. Wolff-Eisner in 1907 pointed to analogies existing between urticaria, hay fever, and serum disease and was the first to claim that urticaria was explainable on similar grounds, namely, a hypersensitiveness to a foreign albuminoid substance. According to his hypothesis the vari-

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ous ætiologies of this affection fall into one group, since the fundamental process is the same in all. The forms due to insect bites, nettles, etc., he considers find their most consistent explanation in this theory. In those of internal origin the toxine originates directly or indirectly from the body itself. Following this line of reasoning, in urticaria *ex ingestis* the albumin is not sufficiently split up by the intestinal juices, hence heterogeneous albumin is absorbed into the circulation. In the case of drug eruptions native albumin is transformed into foreign proteid by fixation of the drug to the albumin molecule. In constipation, pregnancy and menstruation it is probable that an alteration of albumin takes place, which leads to hypersensitiveness and urticarial eruptions.

Anaphylactic phenomena have been familiar to the medical world for years, and many attempts have been made to study their mechanism. It was not until 1902, however, that anaphylaxis and immunity were first differentiated. This was done by Richet in his classical experiments with actinia extracts, by which he demonstrated that an animal could be so sensitized to an injection of a non-toxic dose that a second injection of a minimal quantity, after a certain interval, proved fatal. The following year Arthus, using horse serum, obtained similar phenomena. About the same time von Pirquet and Schick, working along similar lines, first definitely classified the symptom complex, which develops after the injection of therapeutic sera, as serum disease. This they interpreted as a reaction to a specific foreign proteid. Briefly, the symptoms are as follows: various skin manifestations of urticarial or erythema multiforme type, fever, œdema, and pain in the joints. They occur, usually, after a definite period of incubation, viz., 8 to 12 days. When such individuals are reinjected the incubation period is reduced to a few hours, a local reaction is present at the point of injection, the Arthus phenomenon, the general symptoms are of short duration and sometimes accompanied by collapse. For this clinical picture von Pirquet has coined the word allergy. The sensitizing substance itself he has named allergen which, from the findings of Rosenau and Anderson, is identical with the toxic substance of serum. Further, it has been shown that the anaphylactic reaction is a specific one, e. g., guinea pigs sensitized with horse serum do not react against other albuminous bodies, such as egg albumin or milk. It has also been demonstrated that acquired susceptibility is transmissible by heredity, and Nicolle and Otto have shown that a condition of passive anaphylaxis could be induced by treating a normal animal with the

serum of an anaphylactisized animal. The process of anaphylaxis, then, consists of the introduction of a foreign proteid to which the organism responds by producing an increase of antibodies for this substance. On the administration of a second dose after the so-called incubation period, of even a minute quantity, the proteid is so rapidly disintegrated by the antibodies that toxic products are set free, which give rise to the clinical phenomena. A further disintegration renders them harmless and the attack subsides. Although in animal experimentation in the vast majority of instances results are obtained by injection, Rosenau and Anderson succeeded by feeding animals in obtaining the reaction by way of the alimentary canal. As a result of the vast amount of research which is being done with this phase of the immunity question much light is shed on obscure dermatological processes. The experimental work shows that idiosyncrasy, so-called, is a definite reaction on the part of the organism, in the symptomatology of which the skin takes a prominent part. That the cutaneous manifestations vary markedly is seen in the serum rashes where we may have all grades from a fleeting urticaria to an erythema multiforme of great severity. This variability in type is also seen in the eruptions which follow certain drugs or the ingestion of certain foods. The severity of the reaction is also independent of the quantity of the noxious substance, as infinitesimal amounts in some individuals may provoke an attack.

Cases of chronic urticaria, in which outbreak after outbreak occurs, despite treatment directed to every conceivable cause, find their most reasonable explanation in the absorption of unmodified proteid from the intestinal tract. When a reaction takes place with antibodies which have been previously formed under like conditions an attack is precipitated.

Bruck, wishing to determine whether he could produce experimentally a state of anaphylaxis with certain foods, employed hog serum and crab meat and obtained with both positive results in rabbits and guinea pigs. Carrying his experiments further he demonstrated that the serum of an individual, in whom the ingestion of pork in any form produced an urticaria, possessed an anaphylactic antibody. This he transmitted to normal animals and by the subsequent injection of extract of hog meat produced in them typical hypersensitiveness.

Chauffard, Boidin, and Laroche brought about a condition of anaphylaxis with echinococcus fluid. The urticaria following rupture of the cyst, these investigators explain on the assumption of a

previous sensitization of the organism with the protein which is suddenly liberated. While experimental evidence is lacking, it is quite probable that a similar process takes place in the case of intestinal parasites. Rosenau and Anderson have shown that true anaphylaxis can be produced by bacteria as well as other proteid-containing substances. This is suggestive in cases where urticarias or erythemas develop in connection with gonorrhœal urethritis, cystitis, endometritis, salpingitis or other pyogenic infections. They tested a great many albuminous bodies and found that hæmoglobin, egg albumin and extract of peas act analogously to serum.

The familial susceptibility, which is sometimes met with in addition to individual idiosyncrasy, is not sufficiently explained according to some authors by the anaphylactic theory and they would seek the cause of these phenomena in an inherited instability of the vasomotor system. This brings us to a consideration of the various views regarding the production of the urticarial wheal. The oldest one, namely that of Unna, which attributed the lesion to a spasmodic contraction of the small veins, is no longer supported by the majority of writers. Today, the controversy hinges chiefly on the theory of an angioneurotic or inflammatory origin. Neisser, Kreibich, Bruck and others strongly uphold the former view, while Török, Philippson, and Gilchrist, are among the supporters of the latter. According to Neisser, the formation of the wheal rests with the stimulation of the vasomotor apparatus, resulting in a dilatation of the vessels, with hyperæmia and increased serum or lymph transudate. As an additional pathogenetic factor he considers Haidenhains' lymphagogue theory of moment. The latter held the view that lymph is the product of an active secretion on the part of the endothelial cells of the capillaries and named certain chemical substances which stimulated the flow of lymph independent of blood pressure lymphagogues. These he divided into two classes, the first including peptone, strawberry juice, extract of crayfish, mussels, oysters, etc., and the other crystalloidal substances, as, salt, urea, sugar, etc.

Kreibich does not differ materially in his opinion from Neisser, except that from his examinations as to the nature of the œdema he classified it with the exudates rather than transudates,

Philippson, in diametrical opposition to the Neisser-Kreibich theory denies a nervous influence in the production of erythemas and urticarias and favors a hæmatogenous origin. He believes they are the result of emboli of toxic products, bacterial, medicinal and metabolic, and that by injury to the endothelial cells a process related to inflammation takes place. Strong adherents of this view are Török

and his collaborators, Vas and Hari. Török contends that injury or irritation of the vasomotor centres has never produced anything except variations in the calibre of the vessels. The so-called reflex types he would explain as the result of toxic substances from intestinal parasites, drugs, or septic substances from the genito-urinary tract, pyogenic processes of the viscera, carcinomata, etc. With Hari he found that a large variety of substances introduced into the corium, such as ptomaines, sera, bacterial toxines, drugs and normal and pathological products of metabolism, produced urticaria by injuring the vessel and by a repeated action brought about a hypersusceptibility of the vascular system. This is in accord with Gilchrist's opinion, who from histological findings in urticaria factitia, defines the wheal as an acute inflammatory swelling due to a circulating toxine. To determine whether prolonged irritation of the vasodilator fibres would produce inflammatory changes similar to those described by Gilchrist, Bruck undertook experiments with frogs, but was unsuccessful in eliciting any inflammatory lesion in the area of stimulation. He concludes, therefore, with Neisser and Kreibich, that urticarias are consecutive to central or peripheral nervous influence and are not of an inflammatory nature. Many observers occupy an intermediate position and while conceding the possibility of a nervous influence also admit the rôle of vascular changes.

The possible relationship of internal secretion with the anaphylactic condition has recently been discussed by Hoffmann. Owing to the frequent association of urticaria with hay fever and asthma, conditions commonly found in hyperthyroidism, he argues that the glands of internal secretion so influence the vessel tone by their products that they form an important factor in the production of anaphylaxis.

Wolff-Eisner ascribes the phenomena of anaphylaxis to a central origin and states that "individuals with an unstable vasomotor system are especially predisposed to the more severe forms of hypersensitiveness." Asthma, urticaria, fibrinous bronchitis and membranous enteritis, all related in their symtomatology, he attributes "to vasomotor irritability and vasomotor disturbances which are responsible for the eosinophile secretions, the fibrinous exudate and the spastic condition as well." The subjects of pollen disease likewise belong to the class of individuals in whom vasomotor equilibrium is easily disturbed.

The erythema group, which by the occurrence of transitional forms comprises such affections as erythema nodosum, urticaria, the purpuras, scarlatiniform and morbilliform erythema, constitutes

a connecting link between dermatology and internal medicine and illustrates the interdependence of one part of the human economy with another.

The process involved in exudative erythema we have come to regard as only a part of the symptom-complex of a general toxæmia. In a disease having such a comprehensive ætiology it is not surprising to find a polymorphism ranging from a simple erythema to marked œdema and purpura or even extensive hæmorrhages. The process being related in all and depending on the intensity of the irritant it is not practicable always to separate the different types, as at times one form will pass into another or they may appear successively or coincidentally in the same patient. As has been pointed out by Osler and others, the disease may manifest itself by visceral complications only, or in addition to the cutaneous eruption and joint lesions there may be involvement of the visible mucous membranes, of the gastro-intestinal and respiratory tracts, the serous membranes, viscera, brain, etc. In exceptional cases the attacks have been so violent as to simulate a condition demanding surgical interference.

Of the visceral complications, the gastro-intestinal crises are the more frequent, especially as a concomitant of the condition known as Henoch's purpura. The symptoms consist of colic varying in severity, vomiting and diarrhœa, sometimes with hæmorrhages from the stomach and bowels. That the gastro-intestinal mucosa may be similarly involved as the integument is substantiated by clinical observation and the findings at autopsy. Hebra reported the case of a woman who had been ill with fever and erythema gyratum. The post-mortem examination showed the intestinal and cutaneous lesions to be identical. In a number of Osler's cases the visceral lesions preceded or occurred independently of cutaneous manifestations. One of his patients, for nearly eight years at recurring intervals of two months, suffered from violent attacks of colic lasting six to ten hours, accompanied by fever and delirium. For the first six years there were present "large liver spots," but for two years thereafter no skin manifestations whatsoever were present. He also records the history of a family in which acute circumscribed œdema occurred in five generations. Gastro-intestinal crises were a special feature and in one member there was complete freedom from skin lesions.

In a case of Galloway's, a young girl developed, year after year, a profuse eruption of exudative erythema with purpuric le-

sions accompanied by an enterocolitis of severe degree and hæmaturia which lasted for some weeks. The ætiology was finally traced to blackberries and nuts, which she ate each autumn when she went to the country, immediately after which she had an attack.

Where the cutaneous outbreak is preceded by lesions of the mucous membrane it is not unreasonable to assume that the general infection takes its origin here. The nose and throat furnish a prolific source for the absorption of toxines, as exemplified by the erythemas following the angina of acute infections and sometimes syphilis. In the latter instance it has been suggested by Ehrmann that the eruption may be due to the development of other organisms in the throats of leutic patients, absorption taking place in situ or, if the bacteria are swallowed, their products absorbed from the gastro-intestinal tract. Operations of the naso-pharynx, as well as various inflammatory affections of this region have been followed by erythema nodosum and erythema multiforme. One of the most typical cases of multiforme erythema which I have ever observed appeared in a patient with ulcerating gummata of the pharynx.

In those cases with coincident or alternating skin and mucous membrane lesions it is probably purely accidental whether the skin or mucous membrane is involved, as the exciting factor is very likely a common one. I have had under observation for the past two years a young woman who had suffered for one year before I saw her from bullæ which first appeared on various parts of the body, especially the hands and toes, and several months later involved the oral cavity also. Since that time she has never been free from very painful erosions of the tongue and palate and a severe gingivitis. Every few weeks or months she develops, in addition to large bullæ which appear more or less constantly a generalized erythema multiforme with purpuric lesions on the extremities. Her general health has not been materially affected. Cases like this developing various types of eruption coincidently or in succession, illustrate the futility of attempting to classify them as distinct entities.

There has been described a group of cases with erythematous and bullous lesions, frequently presenting many points of resemblance with erythema iris, attended by constitutional disturbances, a high temperature, and sometimes terminating fatally. The following is an example:

A. B., a Greek, aged thirty, with nothing of moment in his previous history, developed on March 24, 1910, an erythema of the trunk and later headache, anorexia, constipation and fever. The

skin lesions, at first erythematous, became bullous with clear and then cloudy contents. The mucous membranes were similarly involved and his eyes were the seat of a purulent discharge. At the end of two weeks he was markedly asthenic, delirious and semi-comatose. His temperature rose as high as 105.2° F. and within three weeks of the onset of the disease the patient died. Urine, blood and cultural examinations threw no light whatever on the condition. Unfortunately a post-mortem was not obtainable on this patient, but autopsies in similar cases, as in that of Pollitzer's, have failed to reveal any morbid process of the internal organs. From the analogies which these cases present with the symptom-complex of anaphylaxis it seems to me we must seek in this field the elucidation of their nature.

From experiments made with a number of pharmaceutical preparations the deduction is drawn that the introduction of certain drugs into the human system leads to the formation of albuminoid bodies which act as alien proteid. Bruck relates the case of a physician with a marked idiosyncrasy against antipyrin. Although he had not taken the drug for sixteen years Bruck was able to produce typical anaphylaxis in animals with the serum of this patient. Similar results were obtained by him with iodides. Confirming Bruck's work, Klausner sensitized a rabbit with the blood of a patient who had suffered from iodoform intoxication and exhibited an idiosyncrasy against potassium iodide. Subsequent injections in the rabbit of potassium iodide were followed by anaphylactic shock.

In conclusion, although the many and varied conditions under which the erythema group of skin diseases occurs point to a plurality of causative agents, we have no more plausible explanation of their modus operandi than that advanced by the theory of anaphylaxis.

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SOME TOXIC EFFECTS IN THE SKIN OF DISORDERS OF DIGESTION AND METABOLISM.*

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THERE appears to be no weighty reason for dividing the toxic disorders of the skin into classes, especially if the classification shows a tendency to rigidity and so prevents proper appreciation of causative factors in any given instance.

The difficulty of division lies in the overlapping of these factors. However, if this objection is kept in mind, a separation into three groups is permissible; first, disorders due to derangement of digestion, second, of intermediary metabolism, third, those due to anaphylaxis. For example, although urticaria is at present the only autotoxic eruption which has been experimentally demonstrated to be an anaphylactic phenomenon, it is rare to find a chronic case uncomplicated by gastric symptoms. Prurigo's relationship to urticaria is close, but it is associated with evidence of disturbance in intermediary metabolism and if anaphylactic shock is a factor, it must be only partial. Conversely, anaphylaxis in the human being commonly expends its force not on the respiratory apparatus, but on the gastrointestinal tract as is amply proved by cases of serum

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disease. After all, it matters very little whether indigestion is primary or secondary. It claims attention in either event.

Group I.

Toxic Effects of Disorders of Digestion.

The same difficulty exists here in locating the chief seat of indigestion. Rosacea begins with functional gastric change; when a case has reached the second stage, the whole tract is involved, often structurally. Intestinal fermentation is the chief feature of the acneiform dermatitis I shall describe, but it seldom occurs without constipation and hyperacidity.

Hyperacidity occurs more frequently in my cases than any other digestive disturbance. In fact it may be expected to complicate any one of them in any group. It occurs as a direct result of improper diet or overeating or drinking, indirectly from overwork, shock or worry, reflexly from abdominal disease and possibly from anaphylaxis, as part of its metabolic disturbance. The diagnosis is not to be established upon one analysis of stomach contents unless the patient refuses a second experience with the pump. The total acidity varies from day to day and at different hours on the same day. It may be normal on one occasion, increased on another, subnormal on the third. The general rule, however, is for hyperacidity to persist until relieved by treatment. Fifty per cent. of total acidity seems to be generally accepted as a pathological state.

So far as local symptoms are concerned, they vary from an uneasy sensation when the stomach is empty to constant nausea and pain which may be epigastric or referred to the right shoulder. Appetite may be lost, but it is generally good, perhaps because of the relief from discomfort which eating brings. The tongue is coated as though with a white-wash brush, there is an acid taste and the breath is foul. Generally, but not always, improper preparation in the stomach and swift emptying of its contents result in intestinal fermentation attended by colic, by eructations and flatus, indicanuria, obstinate constipation with or without alternating diarrhœa. These derangements are functional and rarely, if taken in hand in a reasonable time, produce structural change in the gut. Catarrhal inflammation may result and hæmorrhoids are not an uncommon complication. My cases have been caused by or interrupted by appendicitis, disease of the gall bladder, floating kidney, peritoneal ad-

hesions and ovaritis, all of which demanded in certain instances surgical interference before any real progress could be made.

Besides the skin eruptions, the intoxication of indigestion, particularly of hyperacidity, shows itself in various complications affecting the nervous system most commonly. They may be functional as neurasthenia or insomnia, or inflammatory as neuritis. The eye may and generally does exhibit conjunctival inflammation; iritis, iridocyclitis, scleritis and panophthalmitis occur. Joint and muscle pain is frequent; it is rarely the result of inflammation. The blood-forming organs suffer to some extent, but the secondary anæmias rarely reach an alarming grade. There is, as a rule, no increase in white corpuscles nor change in their relative proportions. A chronic vasoconstriction of the peripheral vessels (skin) is one of the striking results of the poisoning of indigestion. This or mechanical pressure by gas may produce disagreeable sensations of cardiac oppression or may even cause precardial pain not unlike a false angina. Loss of sexual appetite and capacity in the male, is not infrequent.

The cases I have selected are illustrative of the type of skin change rather than of the digestive disorder and are, therefore, not necessarily due to one form of indigestion. If the selection is made from the more successful results, it is not because there were not plenty of failures, but because a favorable outcome carries with it a certain amount of conviction as to the correctness of the diagnosis.

Loss of Hair. The books as a rule make little of a toxic element in these cases. In private practice, at least thirty per cent. in women, five per cent. in men of defluvium occurs without sign of a local inflammatory process. We are all familiar with the loss of hair which follows the toxæmias of pregnancy, particularly hyperemesis. Hyperacidity is the digestive derangement most prominent in my cases both in proportion and in the symptoms it presents. The occurrence of its facies, a chlorotic pigmentation of the epidermis overlying a dead white, due to vasoconstriction with deepening of skin lines and a blackened hyperkeratinization about the mouth giving it a pinched expression and eyes red-rimmed by conjunctivitis to say nothing of the white-washed tongue, is at least suggestive enough to warrant examination of stomach contents.

Case 1. Loss of Hair Due to Gastric Hyperacidity. The patient was a married woman, aged thirty-five. She had never been pregnant. For years past, she had suffered from recurrent attacks of colitis, which she had managed to control by colon irrigation, careful dieting and capsules of salol and castor oil. Flatulence generally was marked. Her hair had begun to suffer only a few

months previously and was falling in quantity. The scalp was white and free from scale or crust. The hair itself was dry, lustreless and broken. It had lost in length considerably in a short time because of breaking through nodes of trichorrhexis. The facies of acidity described above was present. The circulation was poor during the attacks of colitis, but improved during the intervals somewhat. The bowels were regular without medication in the intervals.

Ewald test-breakfast removed after one hour was examined with this result on October 28, 1908: Total quantity, 60 cc.; filtrate, 18 cc.; total acidity, 76; hydrochloric acid, free, 50; combined, 0; organic acids and acid salts, 26; lactic acid, trace; blood test, negative; cells, few squamous; food particles, normal; tissue, none.

The fæces had been examined on October 22nd with no noteworthy results except that no mucus or ova were found and that Gram negative organisms predominated. The food residue showed little undigested material. At the same time, the blood showed considerable concentration: 100 per cent. hæmoglobin; color index, 0.95; red blood cells, 5,240,000; white blood cells, 8,000, with a slight eosinophilia. Reduced to normal proportions, the figures indicated a very fair condition for a city-dwelling woman.

Treatment consisted of a strict antacid diet and 15 grains of sodium sulphocarbolate three times daily. A slightly stimulant local treatment was instituted for the scalp, because experience has taught me that even these toxic cases do better under it.

On February 11, 1909, a second test-meal was given and examined after one hour: Total quantity, 6 cc.; filtrate, 2 cc.; total acidity, 42; hydrochloric acid, free, 14; combined, 14; organic acids and acid salts, 14; lactic acid, none; blood test, negative; cells, few squamous; food particles, normal; tissue, none.

With this improvement, all symptoms disappeared, including the falling of the hair.

Probably the commonest and most typical result of gastrointestinal intoxication in the skin is an acneiform dermatitis described here and there in the literature, notably by Elliot in Morrow's System of Dermatology. It differs from acne in that it appears ten to twenty years after puberty and is seated about milia rather than comedones and from rosacea in the occurrence chiefly on the forehead and line of the jaw and in the absence of telangiectasis.

Case 2. Acneiform Dermatitis with Hyperacidity and Gastrointestinal Crises. The patient was a married woman, twenty-eight years of age, never pregnant. Indigestion was shown by nausea, heartburn and epigastric pain and flatulence had existed for two years, acute attacks occurring from time to time. Acne began (there had been very little at puberty) eighteen months after the onset of stomach symptoms. The eruption was confined to the face and upper part of the skin of the throat, the sites of election being always the forehead, malar eminences and the border of the lower jaw. The individual lesion was round or ovoid, 2 to 4 mm. in the greatest diameter, with a rounded top at full development. The papule began deep in the corium about a small sebaceous cyst which could be shelled out with some difficulty, was rose-pink at first, then fiery red and finally, during regression, purple. Secondary infection and necrosis were rare accidents, and only in the rarest instances were the ungrouped papules

situated about a comedone. When subsiding, after an existence of four or five weeks at times, the papules softened a little and became covered by a hyperkeratotic scale which was tightly adherent. If this scale was allowed to remain it produced, perhaps by pressure alone, a small atrophic scar. The site of the lesion might remain for months and be marked by chronically congested vessels. Local treatment had almost no effect except removal by the knife of the milium about which inflammation took place. After that, lotions and pastes might hasten involution.

Examination. The abdomen revealed points of tenderness in the epigastric region and the right iliac fossa. It could not be decided by palpation whether the latter tenderness was due to ovaritis or appendicitis. The stools showed a small amount of mucus and blood; the stomach contents showed 70 per cent. of total acidity. The urine analysis gave no sign of disturbance of intermediary metabolism. There was noticed a trace of serum albumin and an increase of indican.

Treatment consisted in a diet restricted as to meat, milk, acid fruit and pastry; sodium sulphocarbolafe, daily high enemas of normal saline solution, lactic acid milk and local treatment for an anal fissure attended by pruritus. After an improvement extending over three months, during the latter two of which the colon irrigations were reduced to two a week, the patient developed a new type of acute attack. After errors of diet, sweetbread or lobster for example, after worry or fatigue, during the late evening slight rigors occurred with intense acroasphyxia followed by epigastric pain, nausea and great flatulence, the abdomen being tense. After a few hours diarrhœa would set in, which was accompanied a few times by loss of blood and recrudescence of anal itching. These attacks had averaged one in four or five weeks since May, 1910, but they were now lessening in number and severity. Thirty-six to forty hours after the onset of these acute seizures a new outbreak of acneiform dermatitis became evident.

The treatment was altered somewhat. Acid milk was stopped and capsules of salol and castor oil substituted. Colon irrigations and hydrotherapy were given twice a week and the diet modified to exclude all meat for a month, after which fowl was allowed once a day. Improvement in the skin was quite marked. It was generally of a better color and the pigmentation about the mouth was gone; acne lesions were fewer and smaller. Complete recovery was hardly to be looked for in the life of a society woman.

It is difficult to interpret these conditions properly. Whether the acidity occurred first and produced by fermentation a colitis which extended to the appendix or whether the latter or an ovaritis was reflexly responsible for the gastric condition, cannot be determined. It seems to me that the recent acute attacks were truly anaphylactic, sensitization having been accomplished during the earlier period of frank indigestion. The symptoms seemed fairly typical of human anaphylaxis. If so, the attacks originated, of course, within the body and the signs referable to the gastrointestinal tract may be part of the effort to rid the organism of the poisons. In none of the recent ones has either the patient or have I been able to trace any error of diet. The seizures occurred with a purely vegetarian diet. Fatigue was a pronounced element in their production.

Group II.

Toxic Effects of Disorders of Intermediary Nitrogen Metabolism.

In a previous paper, Dr. Schwartz and I dealt with certain phases of this work, regretting that lack of material in purpura, pompholyx and scaling disorders in an early stage prevented any consideration of their association with disturbed nitrogen metabolism. I shall present four cases in which such association is evident. We confined our earlier examinations to erythema, urticaria, eczema, dermatitis herpetiformis, prurigo and psoriasis and stated that in eczema, prurigo and dermatitis herpetiformis a marked change, particularly in the beginning of attacks occurred in the nitrogen partition quite uniformly.* In the others, no such phenomenon appeared. We gave methods of determination and a standard of comparison tabulated from examination of healthy urine, compiled by Folin of the nitrogen compounds in the partition and stated our belief that no urine analysis in any skin disease suspected of originating in disorder of protein metabolism was complete without the determination of the percentage of these bodies. We believed that such an analysis was the only safe method of demonstrating a disorder of nitrogen metabolism at present, that the change most often present was a decrease of urea and a corresponding increase in the rest nitrogen fractions and that when it was marked, symptoms could be looked for. In these beliefs a more extended experience has confirmed us. A use of detoxicated thyroid, hydrotherapy and reduction of nitrogen intake have seemingly cured certain cases and improved others. There seems no doubt that thyroid by mouth exercises a very constant effect in promoting urea synthesis. We have not succeeded, however, in hospital cases, in causing any eruption by overfeeding with nitrogenous food.

I believe still that this lack of nitrogen balance is like the eruption and eosinophilia, only a symptom and the cause must be sought elsewhere. No urine analysis has been done on anaphylactic animals so far as I know. If Anderson is right and the symptoms of anaphylactic shock are due to disturbed metabolism, not direct poisoning as Friedberger holds, it is conceivable that the real cause may be a partial reaction following an introduction of a subminimal dose of antigen and that a succession of such shocks is necessary to produce

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a reaction like purpura. There is no scrap of evidence to prove it. The symptoms in this class of cases do not correspond as those of urticaria do to classical forms of anaphylaxis. Local eczematoid and psoriasiform reactions produced by staphylococcus toxine, by injection of extracts of scale and crust and serum can hardly be regarded as specific when we consider the identical lesions produced by scratching and cold and by formalin. They are quite different from the cutaneous reactions of tuberculin, vaccine and tricophytin and are, it seems to me, only a local response to injury.

An extraordinary feature of the cases in this group is that the metabolic disorder, no matter how severe or how lasting, leaves no permanent trace in the tissues. Whatever the poison is and however formed, its action is that of morphine and other alkaloids which cause somatic death without cellular destruction. We are all familiar with the conspicuous lack of definite finding in autopsies on eczema or pemphigus patients. In all our urine examinations, we have found evidence of nephritis only in the erythema group. This fact also explains why in the scaling and bullous group, violent and long continued inflammation leaves no trace in the skin.

I have been careful in making the urine examinations reported here (which have been done in almost every instance by Dr. H. J. Schwartz) to keep the patient on exactly the same diet both as to character and weight on the day before and the day of the collection of urine.

I shall quote two cases from the scaling, two from the bullous class and one of purpura.

Case 3. Psoriasiform Scaling of the Scalp. The patient was a married woman, twenty-five years of age, never pregnant. She has had since puberty headaches antedating the menstrual period by several days. The headaches were very severe, accompanied by nausea, vomiting at times and physical depression so great as to require stimulants such as aromatic spirits of ammonia. The heart sounds were feeble, the pulse slow (54 to 60) and very soft during the headache. Her tongue was always coated and the bowels constipated. The period lasted from four to six days, these symptoms disappearing usually on the second. The attacks have recently begun to occur in the intervals, resulting, apparently, from fatigue and worry, as well as dietary error. They have averaged once a fortnight since the Fall of 1910.

About the time of increase in frequency of the headaches, her scalp began to itch and her hair to fall. There had been no scaling before then, the patient was sure. In March, 1910, the scalp showed a diffuse scaling which was dry, grayish and not adherent and which was worse below the occipital protuberance. The hair was dry, lustreless, split and broken at the ends with some trichorrhexis nodosa. Her face showed unmistakable signs of gastrointestinal intoxication in the shape of acneiform dermatitis, comedones, pigmentation of diffuse keratinization around the mouth, with the underlying pallor of vascular spasm. The

pulse was 60, soft and lacking in tone. The tongue was coated; flatulence was marked.

Under forced feeding, rest and local treatment with ammoniated mercury cream and a resorcin-formic acid lotion, the hair stopped falling and the acneiform dermatitis disappeared. As headaches continued to recur and indications seemed to point to the condition of the pelvic organs as the causative factor, the patient was examined and found to have a retroverted and retroflexed uterus with prolapse of the right ovary. The position was rectified perfectly by pessary support, but failed to relieve the headaches.

After six months the uterus was properly in place. The skin conditions had changed materially—acneiform dermatitis had returned in the train of indigestion (hyperacidity) and in place of the gray, branny scaling previously seen in the scalp, there were patches of sharply defined, thick, psoriasiform scale, half to one centimetre in diameter, easily detached and causing itching and loss of hair. Her pulse was now between periods full, hard and more frequent, about 80. Especially on account of the last change, two urine examinations were made, one in the interval to determine the patient's normal condition, one during the headache just preceding menstruation. The 24-hour specimens were taken under identical conditions, diet being regulated the day before and day of the urine collection. The evidence of disturbance in the nitrogen metabolism was unmistakable in the interval report. Our expectation that the rest fraction would be largely suppressed during the headache period was completely justified. The attack was particularly severe.

URINALYSES, CASE 3.

Date, 1911.	Vol. c.c.	Sp. Gr.	Reaction.	Albumin.	Sugar.	Acetone bodies.	Indican	T. N. Gm.	Urea N. % T. N.	NH_3 N. % T. N.	Uric Ac. N. % T. N.	Kreatinin N. % T. N.	Rest N. % T. N.	T. Kreat. N. Gm.	Remarks.
Jan. 12.	640	1024	acid	0	0	0	0	6.4	74.7	5.7	2.3	1.2	15.9	0.8	Two weeks before menses.
Jan. 26.	420?	1025	acid	0	0	0	+	5.3	85.5	5.6	1.7	2.1	4.8	.1	Two days before menses, Diet same.

Since that time, January, 1911, under the influence of a sharply restricted protein diet (one-quarter pound of fowl or beef every other day) and considerable doses of Beebe's nucleoproteid of the thyroid, the scalp eruption has disappeared, the digestion has improved, the pulse softened, but headaches continued to occur. They are easily controlled in the beginning by digitalis, strophanthus and antipyrin.

May 10, 1911. The patient has passed her first menstrual period since puberty without headache, but the scalp shows a relapse of scaling with loss of hair coincidentally with an attack of hyperacidity. In December, 1911, all symptoms disappeared.

CASE 4. SCALING DERMATOSIS BELONGING PROBABLY TO THE PARAKERATOSIS VARIEGATA GROUP. The patient was a man, thirty-four years of age. He was well nourished and inclined to corpulence. The disease began in early childhood since when he has been in the care of one of our colleagues who called the condition ichthyosis according to the patient's statement. Even when I first saw him in February, 1911, his facies, particularly the lids drawn to the point of ectropion, was distinctly suggestive of this condition. At puberty it slowly changed into a scaling inflammation which has persisted without change until now. Seeking some explanation for such a history, these details of the mother's pregnancy were reported. She had a persistent and distressing hyperemesis

during the first three months and following a headache without convulsion for twenty-four hours, was suddenly delivered six weeks before term. There were no general symptoms in the patient except a rare attack of indigestion with diarrhœa and a high tension pulse.

Practically the whole cutaneous surface except the palms was involved, flexors as well as extensors. The face showed the least and the buttocks and legs the most eruption, which had recently extended to the backs of the hands and neck. The most recent lesions were rounded, one-half centimetre in diameter, slightly raised above the surrounding level and sharply defined. The color was that of raw beef which took on a purplish tint on the legs and faded to a rose toward the neck. Over the buttocks, the lesions reached 2 cm. in diameter, still rounded, more elevated and lichenified. The horny layer desquamated generally in one sheet from their surface, leaving a ragged border of loosened scale. These plaques increased in size with no central involution and fused until almost the whole surface was covered, with here and there a small area of pure white with concave, scalloped edges covered with adherent scales of unchanged horny layer cracked along the skin lines. The latter condition was also in the face with the shadow of beginning macules along the angle of the jaw. In the scalp, flaky scaling with no redness obtained. No suspicion of serous exudation had ever existed even under irritation. Fissuring had occurred in cold weather. Subjective symptoms were very slight, only pain and soreness or moderate pruritus.

The urine examinations gave truly remarkable findings. Except in the last report when a purely vegetarian diet obtained, the same care was taken to regulate the regimen the day before and the day of examination as in the previous case. We have never met nor seen reported such a percentage of rest nitrogen as that in the first report (36.8). The whole analysis was repeated to prove it. The faction reduced to normal under thyroid went up again promptly when its administration was stopped. With its return to ordinary figures the eruption began to fade. Very high indicanuria accompanied intestinal fermentation (March 1st) and the skin symptoms were markedly exaggerated.

Urinalyses, Case 4.

Date, 1911.	Vol. cc.	Sp. Gr.	Reaction.	Albumin.	Sugar.	Acetone bodies.	Indican.	T. N. Gm.	Urea N. % T. N.	NH3-N. % T. N.	Uric Ac. N. % T. N.	Kreatinin N. % T. N.	Rest N. % T. N.	T. Kreat. N Gm.	Remarks.
Feb. 15.	1500	1025	acid	trace	o	o	+	21.9	55.0	4.7	1.5	2.1	36.8	.44	Urates. Analysis repeated. Acct. high R. N.
Mar. 1.	2180	1019	acid	trace	o	o	+++	16.2	72.0	3.9	4.1	3.8	16.3	.61	Thyroid given water increased. Proteins reduced.
Mar. 13.	1600	1030	acid	o	o	o	+	23.9	72.8	4.7	1.9	3.5	17.0	.84	
Mar. 28.	3610	1021	acid	o	o	o	trace	15.6	80.3	4.7	2.4	6.6	6.0	1.029	Thyroid 1 gr. daily.
Apr. 18.	1800	1019	acid	o	o	o	+	12.95	71.2	4.8	2.7	6.8	14.4	0.88	Thyroid stopped for 3 days before analysis.
May 15.	1575	1022	acid	o	o	o	trace	13.73	78.3	3.6	3.0	6.6	8.5	0.91	After 2 weeks of vegetarian diet. Thyroid gr. 1. taken during headache.

Treatment in the beginning consisted in an antacid diet with sulphocarbolate of soda, hydrotherapy (sweat, needle bath and Scotch douche with an oil rub) and thyroid. The last was increased from two tablets daily to ten (gr. 1-5 to gr. 1), of the nucleoproteid. It was stopped at one time on account of an

epigastric pain and was again pushed to ten. In addition to the baths every other day the patient on the odd days rubbed himself thoroughly before a hot bath with this mixture; anthrasol, ½ oz., lanoline, 1 dr., oil of sweet almonds to 2 oz. In the last month improvement has been marked, particularly since he has been on a pure vegetarian diet. The newer patches are fading, only congested vessels remaining and the older ones have lost much of their color and thickness. Scaling is much less profuse than formerly. The pulse, which we use as an index, has become quite soft.

The metabolic disturbance is here and is undoubtedly causative. It seems reasonable to suppose that the patient's mother may have passed on to him a protein susceptibility from her toxæmic state. It must remain a pure supposition, however attractive the library table deduction from present knowledge may be. An intercurrent indigestion or fatigue may and has caused relapse in the skin inflammation.

Case 5. Purpura Hæmorrhagica. The patient was a female, nineteen years of age. The eruption began at thirteen, shortly after the first menstruation. She was seen by me first in 1906 when her blood showed chlorotic anæmia. She improved slightly, but the purpura relapsed in the winters of 1908 and 1910. There was no family history bearing on the case except that all the members are ill-nourished and anæmic. The girl was pale, flabby, easily tired and rather inclined to obesity. Her circulation was poor, the extremities were cold even in hot weather; the menstruation was regular but scanty and exertion brought on shortness of breath. There was a hæmic murmur over the chest and her pulse was feeble and thready during both relapses. There were no abdominal crises and no joint lesions.

The eruption consisted of patches averaging 2 cm. in diameter scattered over the extremities, chiefly the legs, and were made up of punctate hæmorrhages. The resulting pigmentation was never deep. Relapses were constant during the course of the attacks.

Blood Examinations, Case 5.

	Feb. 18, 1908.	May 26, 1908.	April 25, 1910.
Hæmoglobin	75%.	83%.	80%.
Red blood cells	7,128,000.	6,640,000.	6,680,000.
White blood cells	30,000.	6,000.	15,000.
Color index	0.5.	.....	0.6.
Polymorphonuclears	55.25.	68.	61.
Transitionals	5.5.	3.	9.
Lymphocytes	29.25.	26.	28.
Large mononuclears	3.25.	2.5.	1.
Eosinophiles	6.5.	0.5.	1.
Mast cells	0.25.	.....	.....
Coagulation time, 4 minutes	.....	1.5.	not taken.

These blood counts indicate a chlorotic anæmia with considerable condensation which still persists. When the figures for red corpuscles are reduced to the normal level and the others correspondingly, the hæmoglobin percentages range between 50 and 60. A search of the fæces was made on Feb. 24, 1908, on account of the number of eosinophiles, but no parasites or ova were found, nothing of importance in fact. There was no constipation and only slight indigestion. As no other cause presented itself, I turned to the urine examination in hope of an ætiological factor. The reports are not numerous enough but they show conditions at the beginning and near the close of treatment. A percentage of rest nitrogen

of 13.3 for an output of 9.6 gm. total nitrogen is undoubtedly high; its reduction to practically normal figures in three months under treatment is suggestive that the fault may have been in the intermediary metabolism.

Hæmorrhages began again in the winter of 1909-1910 and continued by successive relapses to April of the latter year. Hydrotherapy and thyroid were added to the calcium lactate as were iron and arsenic and an antiscorbutic diet. The purpura cleared up in six weeks and has not returned.

Urinalyses, Case 5.

Date, 1908.	Vol. cc.	Sp. Gr.	Reaction.	Albumin.	Sugar.	Acetone bodies.	Indican.	T. N. Gm.	Urea. N. Gm. % T. N.	Uric Ac. Gm. % T. N.	Uric Ac. N. Gm. % T. N.	Kreatinin. N. Gm. % T. N.	Rest N. Gm. % T.M.	Remarks.
Feb. 24.	900	1020	acid	trace	0	0	++	9.36	72.0	5.1	3.0	4.4	13.3	Calcium oxalate crystals.
May 26.	1240	1017	acid	0	0	0	+	9.16	79.8	3.4	2.5	5.3	8.7	Eruption improving.

Case 6. Pompholyx. The patient was a married woman, thirty-four years of age; no children. She had been under the care of Dr. W. S. Stone for some time for endometritis and dysmenorrhœa. Her menstruation had been very irregular and she was losing weight and strength. She was very nervous and inclined to sleeplessness. Her peripheral circulation was noticeably poor, the pulse was feeble and thready. She had some acidity, some flatulence and irregularity of the bowels.

Attacks of pompholyx began to occur in 1906 and continued at irregular intervals for four years. As a rule the disease showed its ordinary characters, but on several occasions very large bullæ appeared on the palms, soles, ankles and wrists. The relapses were precipitated by worry and poisoning by tainted meat; they followed so closely distress at the menstrual period as seemingly to have causal connection with it, or they occurred without assignable reason. One attack which the writer followed, came on four days after the beginning of menstruation, which was itself five days before time. An erythema characterized by much burning, appeared between her fingers and in irregular patches over the sides of the neck. Two days later small blisters appeared in the areas of redness, which spread and coalesced until they covered the entire surface involved in another twenty-four hours. Five days later under treatment, resolution was complete except for a few tags of loosened horny layer. Her tongue remained clean, the bowels free, and the pulse full and regular during the attack. During the months from February to July, 1910, relapses became less violent and less frequent. The last occurred in June of that year.

The urine examinations in this case were made by Dr. P. S. Shaffer and showed a constant increase in kreatinin and the presence at times of kreatin, the index of endogenous metabolism resulting from breaking down of the tissues. No change was effected in the kreatinin ratio by thyroid medication, although kreatin, which is not present in normal urine, had disappeared at the time of the last report. The rest nitrogen fraction which was high, especially during one attack of pompholyx, was markedly lowered as a result of the treatment.

The patient's diet was restricted in the meats to one small feeding a day and acid fruit was prohibited. Her meals were increased to five daily and complete rest enjoined before dinner. She was directed to take light exercise on rising, followed by a sweat and cold pack. Adrenalin (ten drops t. i. d.) was given continuously at the beginning, later on interruptedly on account of the acroasphyxia. Thyroid nucleoproteid was begun in April and continued in small doses

to the Fall. Hot baths locally or fomentations of a saturated solution of Rochelle salts seemed to aid materially in aborting several attacks. They were taken three or four times a day and followed by a zinc-magnesium lotion.

URINALYSES, CASE 6.

Date,	Vol. cc.	Sp. gr.	Reaction.	Albumin.	Sugar.	Acetone bodies.	Indican.	T. N. Gm.	Urea N. Gm. / % T. N.	NH_3 N. Gm. / % T. N.	Uric Ac. N. Gm. / % T. N.	Kreatinin N. Gm. / % T. N.	Kreatin N. Gm.	Rest N. Gm. / % T. N.	Remarks.
1909.															
Nov. 26.	1520	1015	acid	trace	o	o	o	8.51	7.11 83.5	0.34 4.0	0.154	0.458	0.162	0.286 3.36	Normal except for increased kreatin and kreatinin.
Dec. 2.	1620	1014	acid	o	o	o	o	9.86	8.19 83.08	0.327 3.32	0.157	0.463	0.13	0.59 5.98	
Dec. 9.	1135	1015	acid	trace	o	o	o	7.92	6.28 78.18	0.54 6.82	0.18	0.427	0.087	0.402 5.08	Reduced proteid intake.
Dec. 18.	1580	1015	acid	trace	o	o	o	10.88	8.72 80.08	0.796 7.32	0.195	0.391	0.203	0.571 5.26	kreatin very high.
1910.															
Jan. 4.	1580	1014	acid	o	o	o	o	11.85	10.18 85.96	0.337 2.84	0.15	0.334	0.168	0.678 5.73	
Feb. 3.	1360	1016	acid	o	o		+	10.15	8.35 82.4	0.396 3.9	0.153	0.497	0.113	0.637 6.3	
Feb. 5.	630	1023	acid	+	o		+	7.58	5.82 76.74	0.384 5.06	0.117	0.397	0.15	0.716 9.44	Rest in. high
May 25.	1380	1011	acid	trace	o		o	17.32	5.85 79.9	0.41 5.6	0.078 1.82	0.578 7.3	o.	0.404 5.52	Normal urine except increased kreatinin.

CASE 7. HERPES FACIALIS. The patient was a boy six years of age, strong, and well nourished. His only symptom worthy of notice beside the eruption was a slight acidity, constipation and anæmia. The history was a little uncertain as to duration, but the attacks had occurred at intervals of a few weeks for several months past. There were no prodromal symptoms except a local burning. The patches varied in size from a centimetre or two in diameter to areas six by eight cubic millimetres. There were sometimes bilateral, usually not, the sites of election being the temples, brows and neighboring portions of the cheeks. In this situation, the eyelids often showed œdema. The general appearance, in full efflorescence, was exactly that of the ordinary herpes labialis on a large scale. His urine was not examined because, through a misunderstanding, it was not collected until thyroid medication had been begun, which is quite as effective in destroying urinary evidence of disordered protein metabolism as mercury the Wassermann reaction.

On May 15, 1911, the report was that he had had no attack for seven weeks, a longer period of immunity than any for the past two years. He is on a milk-carbohydrate diet and a daily dose of one-fifth of a grain of thyroid which affects his pulse somewhat.

GROUP III.

TOXIC EFFECTS OF ANAPHYLAXIS.

It has not been definitely decided whether anaphylaxis may be produced by ingestion of proteins, a necessary assumption if we are to explain on this basis the only cutaneous phenomenon which

has been proved to occur in anaphylactic shock. Anderson[1] says that sensitization may be produced in such a way, while Friedberger[2] holds that it is necessary for the most part to introduce a foreign proteid by some other route than the alimentary canal. We must recognize the possibility at least in human beings, or suppose that every such susceptibility is an hereditary transmission which remains quiescent at times to middle life. Whether sensitization happens as a result of absorption through the gastric or intestinal walls of unchanged proteid from any article of food such as shell-fish, pork or strawberries, or of its partially proteolized derivatives, we have no accurate knowledge, although Bruck's experiment of injecting hog serum into a guinea pig previously sensitized by human serum from a patient susceptible to pork, tends to show that the first is possible. Both may be possible if the proteolized products are constant for each protein. There is no fact more thoroughly established than that anaphylactic shock is specific to its antigen. The possibility should be considered in this connection, too, of sensitization to the ptomains of spoiled meat, on account of the constant occurrence of this accident in the history of urticaria cases.

The symptoms of anaphylactic shock in the human being bear fairly close resemblance to those seen in the dog, but differ widely from the guinea pig's. Suffocation from spasm of the bronchioles is not prominent. The disturbance seems to spend itself on the smooth muscle of the gastrointestinal and vascular walls, with resultant vomiting, purging and lowered blood pressure. The hæmorrhages seen in dogs rarely occur in mankind, but in the latter there is the same loss of complement and delay in coagulation.

Passive anaphylaxis, the sensitization of an animal by serum from one already sensitive, concerns clinicians only when it occurs in heredity transmission from the mother and in serum disease. The state of antianaphylaxis is of interest since from it can be drawn an explanation of the continual relapses in these disorders. According to Anderson, antianaphylaxis is complete or partial as it results from the introduction of a large dose of antigen rapidly absorbed with consequent shock and recovery, or from a small dose so given as to be slowly absorbed. In the former case, the animal enjoys a practically complete immunity. The partially anaphylactic animal will react to antigen exactly as does a sensitive animal, only less severely. Fortunately for themselves, as a rule, human beings rarely

[1] *Tr. Am. Cong. Phys. and Surg.*, 1910, viii.
[2] *Deutsch med. Wchnschr.*, 1911, xxxvii, p. 481.

receive a dose of their antigen sufficiently large to produce typical shock. One must suppose in the case of an individual reacting to several proteins, that they have been sensitized to each of them, or that in process of proteolysis some intermediary product occurs common to all the food stuffs to which the organism reacts.

A new light is thrown, by studies in anaphylaxis, on the therapeutics of urticaria and its allied conditions. Oxygen inhalation, adrenalin, chloral, urethane and atropine have been found fairly effective in preventing shock in laboratory animals, but their effects are not so constant or complete as the injection of a small dose of the specific antigen four hours previously to doses sufficient to cause complete shock. The last method is not applicable to human beings, but several of the drugs have been used in the therapy of urticaria, notably adrenalin and atropine.

Case 8. Angioneurotic Œdema. Shock. The patient was a married woman, forty years of age. Attacks of œdema began on her face chiefly about her eyes in July, 1908, following the menopause. She had had chronic indigestion with acute exacerbation at varying intervals for a considerable length of time. These latter consisted in sharp epigastric pain with sudden development of flatulence followed by mild diarrhœa. In the intervals the stools were soft, unformed, with a small amount of mucus. From July to October, the urticaria became worse in extent until the whole body was involved, her feet most of all; the paroxysms of itching were more violent and the extent of the individual patches of œdema was much greater. Her condition was greatly aggravated by cold sea bathing; it was relieved by hot, fresh-water baths.

I prescribed a nux vomica, bicarbonate mixture and adrenalin by mail, as she lived at a great distance and she went through the winter fairly well. In May, 1909, she came to New York in fair condition so far as the skin was concerned, but much worse as to digestion. Dr. H. T. Lee was called in to examine her and after an Ewald test breakfast, the stomach contents proved as follows: Time, 1 hour. No blood or tissue present. Total quantity, 100 cc. Filtrate, 10 cc. Food particles, trace. Total acidity, 110. Hydrochloric acid, free, 5, combined, 35. Organic acids and acid salts, 70. Lactic acid, present. Mucus, abundant.

Although only this examination was made, the evidence of gastritis, hyperacidity and fermentation was considered so striking that lavage was agreed upon. The first attempt was successful, relieving the stomach of much mucus. Two hours later, she began to be nauseated and soon to vomit; her skin became cold and livid, covered with beads of perspiration, pulse feeble, thready and rapid (120). Her expression was very anxious and in the intervals of vomiting she complained of oppression in her chest. After half an hour purging began. These symptoms continued for four hours and gradually disappeared. The patient collapsed when the acute symptoms passed off and was finally brought round by heat and hypodermatic stimulation. Fourteen hours after the lavage, the worst attack of urticaria for months broke out and continued all night. By noon of the next day, the worst of the symptoms had passed off. Since that experience we have contented ourselves with what antacid diet, salines and adrenalin could do with the moderate success which attended their use previously.

There is hardly a feature of anaphylactic shock absent in this attack and this retrospective diagnosis seems quite justified. The patient was undoubtedly desperately ill for a time and on her recovery should have been at least partially immune for a time. The urticaria after the sharp outbreak continued exactly as before. It is hard to explain except on the theory that in spite of the severity of the shock antianaphylaxis was only partially established. Why the attack should have occurred after lavage of an empty stomach and not after expression of an Ewald meal, must remain pure conjecture.

Case 9. Chronic Urticaria. The patient was a married woman, thirty-six years of age. She had had four children, the youngest of whom is eight years old. The eruption began in 1908, on the face only at first and spreading gradually to the whole body. The favorite sites were those where the pressure of the clothes was most exerted. When fully established, the outbreaks developed a tendency to begin at five p.m., and continue all night, disappearing by the next noon. They consisted of typical wheals, patches of œdema and erythema. Dyspepsia and passive congestion of the skin sometimes accompanied them. These symptoms added to mental depression were pronounced during the week preceding menstruation.

She had been subject to indigestion for years prior to the appearance of urticaria and had been obstinately constipated since childhood. Occasionally the course of the chronic dyspepsia would be interrupted by nausea and intestinal fermentation with diarrhœa. Physical examination showed nothing abnormal in the abdomen or pelvis except a much distended colon. The urine as usual in such cases showed nothing, indican was absent and the nitrogen partition and output of chlorides were normal. It view of these conditions it was thought that constipation might be the basic fault, the acidity and intestinal fermentation resulting from it. On account of failure with drugs and colon irrigation, daily colon massage was begun an March 24, 1911. A few oil enemas were used in the beginning, but were soon dropped and by April 13th the bowels were moving regularly. Flatulence improved greatly at the same time, as well as the acidity under a saline (sodium sulphocarbolate alone or with sodium bromide) before meals. Diet was regulated at first on anti-acidity lines, but was changed later to a pure carbohydrate-fat regimen. This was continued for a week, after which one variety of meat was allowed for two days to determine which produced symptoms. It was rather a laborious method for all concerned, but it was finally discovered that only fresh fish, fowl and lamb could be taken with impunity—shell-fish, beef, mutton and internal organs invariably brought on an eruption in four hours. Adrenalin was given by mouth, increasing from 10 to 20 drops three times a day. Under this medication, or along with the general improvement, the pulse, which had been soft and somewhat irregular, regained its tone except during menstruation.

Local treatment consisted of hot carbolic baths (1 oz. to about 10 gal.) and a zinc-magnesium lotion. During the first menstrual period after treatment was begun, while the urticaria relapsed with other symptoms it was by no means so severe as at previous times and during the second, the pulse and the skin remained normal. Conditions have not remained so favorable since her return home, as a result of worry over domestic difficulties.

I have sketched this case because of the success attending the method which I believe is new, of determining the offending proteids in these cases.

Case 10. Ulcerative Stomatitis. This history begins with the mother's pregnancies. The patient was a boy, aged two, the first child. During this gestation, severe hyperemesis occurred early and the pregnancy was terminated at the eighth month on account of eclampsia. Her second gestation was interrupted in the third month, December, 1910, by her physicians because of intractable vomiting, depression and pronounced icterus, perhaps a beginning acute yellow atrophy. She made a more complete recovery than after the first experience and seems now in good health. Her urine in both pregnancies showed albumin, casts, acetone bodies, low urea with high ammonia and rest nitrogen percentages.

This child has been in the best of hands and has lived under every hygienic precaution that could be devised, in spite of which he has gained no weight since the end of the first year. What was won for him between his attacks was lost in three days after one occurred. The seizures began toward the close of the first year at irregular intervals in the beginning, but exhibiting a curious periodicity during the six months ending April 1, 1911. (His blood showed slight anæmia; no plasmodia at any time.) During this period he developed every third Thursday morning without chill, a rise of temperature which by noon reached 103.5° F., rarely a higher figure, continued a few hours and gradually declined to normal by the next day. It was always succeeded by prostration and the loss of the little flesh gained during the interval. By the third day normal conditions would be restored. In April a colitis developed with the result that the regular attack failed to appear. During the course of the later outbreaks, an œdema developed in the soft parts of the face, cheeks, tongue and floor of the mouth. On the swollen mucosa appeared irregularly scattered, small ulcers like those left by herpes. In them were found both organisms of Vincent's angina. They healed promptly with boric acid powder in a few days, to recur with the new attack.

I take the liberty of presenting the history in this fragmentary state because of its interest and appropriateness here. Investigation of the urine and blood, systematic and complete, has been made with no result even in the prodromal period, but it seems fairly reasonable that the child suffers from an inherited, passive anaphylaxis which expresses itself in this extraordinary way.*

*Note. The attacks have occurred with fair regularity and greater severity to February, 1912.

THE TOXIC ORIGIN OF ERYTHEMA MULTIFORME.*

By Henry G. Anthony, M.D., Chicago.

ERYTHEMA multiforme is a toxic dermatosis produced by many toxæmias. It is closely allied to and often associated with urticaria and also with purpura. In the presence of a case of erythema multiforme with urticaria, we suspect that the toxæmia is derived from the gastrointestinal tract, while when the association is with purpura, the toxæmia is more apt to be derived from some focus of infection or from ptomain poisoning.

Erythema nodosum is one of the many manifestations of erythema multiforme rather than an independent affection as was formerly supposed, because we observe cases in which the first eruption that appears is erythema papulatum and the second crop erythema nodosum, or we may observe mixed forms; and also because of the clinical observation that a given toxæmia may produce any one of the forms of erythema multiforme.

A toxæmia from pharyngitis or from an infectious disease such as malaria may assume the form of erythema nodosum in one case and any other form of the eruption in other cases. Erythema nodosum is a less severe variety of the disorder and it is more common during the vigor of the first two decades of life, while in middle life and old age severer varieties of the malady are apt to be observed.

Clinical observations lead us to believe that the form which the eruption takes depends on the dose and virulence of the toxines absorbed, or the vitality of the individual and on the functional integrity of the eliminating organs. In the terminal stage of nephritis, especially in the aged, tissues frequently exhibit a diminished vitality as is shown by the lesions which result from trivial traumatisms. Erythema multiforme occurring in such individuals usually assumes the bullous type. The case observed by Pollard and also one of my cases terminated in gangræne of the bullous base with death of the patient.

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

Erythema Exsudativum Multiforme (Hebra).

In my opinion there is no such disease. I believe that all cases of this dermatosis are symptomatic. The fact that cases are observed in which association with some distant pathological condition cannot be demonstrated does not prove that there is an idiopathic and a symptomatic variety of the disorder, but rather that the distant source of toxæmia cannot always be detected at the present state of our knowledge. Wolff, in Mracek's text-book, states that this is an acute epidemic but not contagious disease caused by an unknown microörganism. The chief reason assigned by Wolff for believing that there is such a disease is the stereotype centrifugal evolution of the lesions. This is entirely insufficient as it depends on the cone-like distribution of the blood vessels of the skin as Unna has shown and it occurs in cases which are obviously symptomatic. The idiopathic form, so-called, cannot be distinguished from the symptomatic variety of the disorder by the appearance of the lesions.

Some German writers speak of a prodromal stage in this disease, that is, the patient has fever, pain in joints and muscles, headache, coated tongue and other symptoms of toxæmia for a variable length of time before the cutaneous eruption appears. This array of symptoms preceding the eruption is equally common in the symptomatic variety of the disorder. A given toxæmia may cause the various symptoms which simulate the prodromal stage of the acute exanthemata for several days before the eruption appears.

A woman, thirty years old, while hanging out washing was suddenly taken with a chill, a sudden rise of temperature, vomiting, diarrhœa, followed by a splitting headache. For the three succeeding days she had a high temperature and severe pain in the back. As there was an epidemic of small-pox at the time, the attending physician interpreted this array of symptoms as the prodromal stage of variola and he was on the alert for the first appearance of the eruption, so that he was quite frustrated when the eruption came out on the backs of the hands on the fourth day and assumed a type he had never before seen; and there was no fall in temperature. It was an erythema papulatum, caused by ptomain poisoning from eating lobster the evening before the illness began.

Cases more closely resembling variola than this one have been reported. The cases of erythema multiforme which occur in association with pharyngitis frequently present an array of symptoms resembling prodromals.

Epidemics of Erythema Multiforme.

The observation of epidemics is another reason assigned for maintaining the clinical entity of this affection. That some of the early

reported epidemics were really communities affected with pellagra, as stated by Lannois, is undoubtedly correct. These disorders resemble each other in the symmetrical development and in the occurrence of the eruption in the Springtime.

The eruption which occurs on the backs of the hands in alcoholics, which is termed "erythema in alcoholism" by Mousset and Chalier, and "pellagoid" by the *Practique dermatologique* is the only eruption which could lead to error at the present time.

The epidemics of recent times are the only ones worthy of consideration. They are two in number, one reported by Herxheimer; a series of 14 cases occurring in soldiers and reported entirely too briefly to be of any value in studying this disease, and the other observed by von Duering.

The epidemic observed by von Duering occurred at Constantinople; the disease did not affect Europeans. It occurred exclusively in soldiers drafted from all parts of the Ottoman empire for military service in the metropolis. The diseases which we would expect to observe in raw recruits brought to a large city and housed closely together in barracks are measles, small-pox, typhoid fever and influenza. Von Duering did not consider the possibility of his cases being sequelæ of influenza and I believe that this possibility in diagnosis is the very first that should be carefully discussed, especially as conjunctivitis occurred in 75 per cent. of his cases and we know that in certain epidemics of influenza, conjunctivitis has been common. In Stinzing's series of 405 patients with influenza, 40 per cent. had conjunctivitis. Conjunctivitis occurs in association with erythema multiforme in influenza more frequently than in any other infection. These reports of epidemics in soldiers are of scientific value in studying this dermatosis, but I feel that they have been permitted to exert too great an influence.

The clinician who believes that there is a clinical entity which is to be called erythema multiforme exsudativum (Hebra) abandons the search for a central focus of disease which is disseminating a toxæmia entirely too quickly, while he who refuses to be influenced in his opinion by the questionable evidence to which I have referred perseveres in his efforts until finally he detects the disease with which the cutaneous eruption is allied.

Pathology.

Erythema nodosum is a form of thrombophlebitis as shown by Hoffmann in a case of syphilitic origin. Philippson, also, found that

the disease was a phlebitis in the cases which he studied and he was unable to detect the presence of microörganisms. Recent students of the histopathology of other forms of erythema multiforme, such as Török and Kreibich, have abandoned the theory that the eruption is an angioneurosis.

In the cases which I have personally examined, I find that where tissue is excised early, that is, during the first two days of the eruption, there is present a dilatation of the veins of the derma and an inflammatory exudate surrounding them, while when tissue is excised from lesions a little later, just before they disappear, there is present a phlebitis partially obliterating the calibre of the vein, quite like that which may be observed in the papulo-necrotic tuberculide or folliclis. All other changes are secondary to this.

Erythema nodosum is a thrombophlebitis of a single, rather large-sized vein trunk situated in the hypoderm. Other forms of erythema multiforme consist of thrombophlebitis of a number of veins situated in the derma. Thrombophlebitis of many superficial small veins is a more serious affection than the same process affecting a single larger vein. Basing my opinion entirely on clinical evidence, I believe that the same toxines which cause erythema multiforme also produce thrombophlebitis of large vein trunks of the lower extremities, phlegmasia alba dolens and that the round ulcer of the duodenum which occurs in burns, is also due to toxic thrombophlebitis.

Many writers have detected microörganisms in the affected tissues in erythema multiforme, but as the microörganisms were of various kinds and as Koch's postulates have not been complied with, it is not established that they are the cause of the disorder. It is quite probable that some cases of thrombophlebitis are due to microorganisms rather than to toxines. The reasons for believing that erythema multiforme is toxic rather than microbic are its association with all kinds of pus infections and its occurrence as a sequel of various infectious diseases of other organs of the skin. Other factors are its appearance after the administration of certain drugs, its relation to metabolism, excretion and elimination and lastly, the fact that certain cases cannot be explained on the hypothesis of infection. I cannot conceive that purpura following snake bite is due to infection; it can be assigned only to toxæmia; neither can I believe that erythema multiforme caused by ptomain intoxication is an infection rather than a toxæmia.

Ætiology.

One of the peculiar features of toxic dermatoses is the observation that they may be produced by emotional shock, while fright and mental emotion have no effect on infections. Lichen planus, certain forms of pemphigus, some cases of eczema and erythema multiforme are the eruptions which are especially apt to develop after emotional shock. That they are the sequence of emotional shock does not prove that these disorders are nervous diseases. The clinical observation can better be explained by the hypothesis that emotional shock deranges metabolism, secretion and elimination and that such derangement is the exciting cause of these eruptions. Long lasting financial worry causes emaciation; the individual subjected to such mental strain usually has a good appetite, normal bowel movement and normal urinary elimination. There is no evidence of deranged secretion or elimination in such cases. The observation is best explained by the hypothesis that there is deranged metabolism. Patients suffering from emotional shock, as I have observed them, have sleepless nights, they turn and toss in bed and sigh frequently, they have coated tongue, loss of appetite, constipation, very slight elevation of temperature, decrease in the solid constituents of the urine and deranged internal secretion, with a variation in the preponderance of these symptoms. That emotional shock may cause hyperthyroidism there can be but little doubt. Dock says "acutal fright, sudden or prolonged, must be a rare cause of exophthalmic goitre, but various emotional shocks seem to have close relation in many cases." From observation of cases of emotional shock of all kinds I believe that derangement of metabolism, secretion and elimination is the important part of the clinical picture; the occasional eruption of the skin is certainly a matter of subordinate importance. This is the explanation I would offer for the following case mentioned by Duhring, which was reported by Barthelemy in 1888:

A woman on returning home from some duty in the late hours of the night was pursued by ruffians through the streets of Paris and barely escaped capture. She reached her home exhausted and frightened. The next day she was admitted to the St. Louis Hospital with a generalized, circinate purpuric erythema lasting six weeks.

In my opinion severe muscular exertion, in running, was a more important ætiological factor in the case than emotional shock. In other words the case was in every way analogous to the case of Sa-

brazés: a laborer indulged in muscular over-exertion for a long period of time in order to stimulate his companions to complete their task. He was brought to the hospital with erythema multiforme and acute nephritis. Herrick assigns these ætiological factors, which for brevity we designate as deranged metabolism, excretion and elimination as the causes of Bright's disease. In many of these cases, deranged metabolism, excretion and elimination constitute only the exciting causes of these eruptions, while preëxisting gastrointestinal disorders, respiratory inflammations and transitory albuminuria are among the predisposing causes. As analogies, an X-ray exposure does not harm a healthy individual, while in leukæmia it may precipitate a fatal intoxication and potassium iodide may cause fatal coma in a diabetic patient and salvarsan may provoke an acute attack in those subject to gout.

In the Springtime there is change in diet, in clothing, in the degree of atmosphere, light, moisture and temperature, which effects metabolism, secretion and elimination, causing in the healthy individual general malaise and vague muscular pains. This is called Spring fever. The same influences are operating in an individual who has some obscure derangement of metabolism, excretion or elimination, or some hidden focus of suppuration or gastrointestinal derangement, or who has recently had pharyngitis or some infectious disease and erythema multiforme develops.

The cases in which the patients have the eruption every Spring for a succession of years are usually of the metabolism, excretion and elimination class. In two such cases recently observed the patients had enlarged thyroid glands, which had been present since birth. In many of the cases in which both nephritis and erythema multiforme are present, the nephritis is not the cause of the eruption; the toxæmia produces both the nephritis and the eruption.

Erythema Multiforme and Pharyngitis.

That erythema multiforme frequently occurs in pharyngitis is well known, but I believe that many cases are misinterpreted because of the fact that it is not sufficiently understood that the eruption is a toxic sequela of the throat inflammation rather than a concomitant symptom. The toxæmias of pharyngitis, especially influenza infection, which pass under our observation are epistaxis, uterine hæmorrhage, rheumatism, lumbago, neuralgia, purpura and erythema multiforme. All of these toxæmias frequently occur at a time when the infection has spent its force, usually ten days after recovery from pharyngitis.

The late development of toxic manifestations in infections of the throat can best be demonstrated in diphtheria. All forms of diphtheritic paralysis, which are obviously toxic, are treated in the text-books as sequelæ rather than symptoms of the disease. Henoch says "diphtheritic paralysis, which may follow even mild cases, usually occurs two or three weeks after recovery from the disease. Paralysis of the palate is the most frequent form. It seldom appears earlier; in one of my cases it developed on the fifth day of the disease." Osler says that multiple neuritis usually comes on four weeks after the infection. All cases of scleroderma following diphtheria which I have observed present the same tardy development. The same fundamental principle of pathology applies to erythema multiforme when it occurs as a toxæmia from pharyngitis infection, especially in influenza. The eruption appears ten days to two weeks and occasionally even a longer time after termination of the infection. Following this period of time, during which he may feel entirely well or experience simply general malaise, the patient will often be observed in bed with slight fever and successive crops of erythema multiforme appear and it is not uncommon for such patients to complain of languor for weeks after the eruption has disappeared.

A woman, forty years old, confined to bed with slight fever, complained of nose bleed, uterine hæmorrhage, with swelling of the phalangeal joints, purpura of the legs and erythema multiforme of the fingers and backs of the hands. On inquiry, I learned that she had pharyngitis, probably influenzal, one month previously. Such a peculiar combination of toxic symptoms can be derived only from a preëxisting pharyngeal inflammation.

I have observed a series of cases like that mentioned by Pernet (hæmorrhagic rashes) "in the case of a man aged forty, a musician playing at times in an orchestra, the rash (purpura) appeared four weeks or so after an attack of influenza."

There are other post-infectional toxæmias such as alopecia of typhoid fever and other acute febrile diseases. Toxic eruptions caused by diphtheritic serum and also by Flexner's serum, as employed in cerebrospinal meningitis, may appear ten days after the injection.

Erythema Multiforme and Joint Inflammations.

Struempell (1886) says: "It is rather characteristic of acute rheumatism that it springs from one joint to another. To-day this

joint is affected, to-morrow that joint, while the joint first attacked continues to be inflamed or rapidly recovers". Where an inflammation of a joint is fixed, I am accustomed to assign it to infection, but where the inflammation shifts rapidly from one point to another I believe that the observation may best be explained by the hypothesis that it is toxic. It is these rapidly shifting affections of joints which we are especially apt to observe in association with erythema multiforme. In other words, the toxæmia affects both the joints and the skin and these are not cases of rheumatism with erythema multiforme. In scleroderma the joint affection was formerly looked upon as rheumatic; now writers agree that it is part of the disease, so the joint affections of erythema multiforme, which shift, are part of the toxæmia.

Erythema Multiforme and Pus Infections.

Erythema multiforme may occur in association with wounds such as in Corlett's case, in which a fatal bullous form of the eruption followed a gunshot wound of the scalp; or in the case of Knox', in which it occurred in association with circumcision. It may occur in association with all kinds of internal pus infections. In one of my cases the patient had an infected tooth with enlargement of adjacent glands and erythema multiforme without elevation of temperature, affecting the mucous membrane of the nose and mouth and the skin of the face and backs of the hands. I have observed the disorder affecting especially the vagina and labia in pus infections of the tubes. That the eruption occurs in association with menstrual disorders, especially where drugs are administered, is well known.

In association with pus infections of the genito-urinary tract, the severest bullous eruption of erythema multiforme I have observed occurred in a case of enlarged prostate. In one instance the patient, an old man, had pus in the urine and each time that there was sufficient swelling of the prostate to cause residual urine in the bladder, he had an eruption of erythema multiforme, without fever. He was observed in four attacks in six months.

I have observed erythema nodosum in the Bacillus coli communis infection of the bladder of little girls, but in no case in which the infection had ascended to the pelvis of the kidney, probably because such ascending inflammations occur especially in infancy. In pyelonephritis of adult life, purpura is the most common eruption of the skin but, nevertheless, in all obscure cases of erythema multiforme

the possibility of association with pyelonephritis should be borne in mind.

Erythema multiforme occurs in gonorrhœa. Personally, I have most frequently observed it in the form of erythema nodosum, especially in young women with the first attack of gonorrhœa. It is rather routine with me, on observing erythema nodosum in a young woman, to inquire as to whether micturition is painful and if a leucorrhœal discharge developed concurrently with other symptoms. Erythema multiforme is more common in gonorrhœa than in syphilis and before assigning syphilis as the cause of a given case, we should exclude a possible gonorrhœal basis for the eruption; where both gonorrhœa and syphilis are present, the history of the case is important in determining the relationship and where the question is doubtful it is probably more accurate to assign the disease to gonorrhœa than to syphilis. The eruption may be provoked by mechanical or chemical irritation of the urethra.

Erythema Nodosum from Drugs.

The drugs which may produce erythema nodosum are potassium iodide, potassium bromide and gasoline. The eruption is especially well marked on the thighs. This phase of the subject has been carefully considered by Fordyce, Schidachi, Hallopeau, Epstein and in the *Pratique dermatologique.*

Purpura and erythema multiforme, allied toxæmias, are associated with more dissimilar disorders of distant organs than any other eruption of the skin. It is, therefore, impossible to enumerate all the diseases in which these cutaneous toxic manifestations may be observed. For the purpose of this paper I will simply name the following diseases selected from the literature, in addition to those already discussed: puerperal fever, typhoid fever, pneumonia, appendicitis, burns, malaria, septicæmia, endocarditis, tuberculosis and syphilis. I have observed thrombophlebitis of the large vein trunks of the lower extremities in puerperal fever, typhoid fever, pneumonia, appendicitis, burns and influenza, but have never observed thrombophlebitis of large vein trunks of the under extremities and erythema multiforme simultaneously in the same patient.

Genoble (1888) reported two cases of erythema multiforme associated with thrombophlebitis and he cited two additional cases observed by others.

The manner in which a given disease may produce various forms of phlebitis may be best studied in syphilis. Philippson says that

syphilis is especially apt to affect the arteries of the internal organs and the veins of the extremities. In recent times attention has been directed more and more to the pathology of the veins of the extremities in syphilis. They are especially apt to be affected in the early secondary period. An examination of the veins of the extremities should be just as much a part of the routine of the clinic as an examination of the lymphatic glands.

Erythema Multiforme in Syphilis.

Toxic thrombophlebitis of syphilis affecting veins sufficiently small in size to produce erythema multiforme, usually does not affect the veins of the derma, but limits itself to a few subdermal veins and hence appears clinically in the form of erythema nodosum and this, although not common, occurs more often than is supposed by those who do not constantly search for it.

De Buermann (1896) reviewed the literature appertaining to erythema nodosum in syphilis. He states that attention was first directed to the occurrence of this dermatosis in syphilis by Mauriac in 1880. He believes that it is not uncommon. Lewin observed it in 47 cases out of 67 examined. Finger observed it in 9 cases out of 345 patients examined. From this time until the present, there has been a constant discussion as to whether the presence of erythema multiforme was accidental in syphilis or a part of the clinical picture of the disease. At present there can be but little doubt that it is caused by syphilis *per se*. Hoffmann (1905) recognized erythema multiforme as part of the clinical symptomatology of syphilis.

In the clinical material at my disposition, this manifestation of syphilis has not been common even since I have been constantly on the alert. Occasionally these nodes break down and form ulcerating gummata, in which case the thrombophlebitic origin of the lesions will not be suspected unless the lesions are observed during their entire evolution. Where toxic thrombophlebitis affects still larger vein trunks, such as the internal saphenous vein and even smaller branches, a string-like phlebitis may be demonstrated clinically by palpation. Where large vein trunks are affected, the clinical picture produced is that of phlegmasia alba dolens, the chief characteristics of which are œdema and blueness of one or both extremities when the patient assumes the erect position and subsidence of the blueness in the recumbent position. Where nodes the size of those observed in erythema nodosum can be detected by palpation, the diagnosis is rendered doubly sure. This form of thrombophlebitis

may occur in tertiary syphilis and should be considered as a possibility of diagnosis in all obscure cases of suddenly developing œdema of the under extremities, especially where the affection is unilateral.

Phlebitis (Migrans).

This is a rare form of syphilitic phlebitis, in which nodes may be felt in the vein wall and which wander along the course of the vein. Cases have been observed by Neisser, Schwarz, Buschke and Scherber.

Treatment.

In erythema multiforme elimination is frequently interfered with by the presence of toxines in the system and such patients are salivated by doses of mercury which they could easily tolerate in health, administered under the mistaken diagnosis of syphilis. We have observed more cases of mercurial stomatitis from moderate doses of mercury in erythema multiforme than in any other dermatosis.

The salicylates are toxine eliminators. They possess the power of destroying microörganisms in the system. The rheumatic joint affections, which are most influenced by salicylates, are those in which the inflammation shifts from one joint to another, while the fixed joint inflammations are very little influenced by this class of medicaments. They accomplish almost nothing in gonorrhœal joint inflammations, or in acute rheumatism where the joint inflammations are fixed.

The salicylates are more powerful eliminators of certain toxines than of others, hence they exert a greater curative influence on some cases of erythema multiforme than on other cases and in some toxæmias they are entirely impotent. Still, they are the most powerful toxine eliminators which we possess and where continued for some time are of value even in severe cases of thrombophlebitis.

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DISCUSSION.

Dr. Ravogli, after congratulating the essayists upon covering this subject of toxic dermatoses in such a thorough manner, said he agreed with Dr. Hartzell that dermatitis herpetiformis was nothing but the result of a toxic condition. The speaker said that in one case reported by him, which was published in the *Festschrift* for Prof. Neumann, the patient was a man who was employed at pickling meat in a butcher shop. He first developed an eczema of the hands and arms, which was later followed by the formation of small vesicles. The eruption spread all over the body in successive crops and, with periods of intermissions, persisted for five years. Pruritus was severe. An examination of the blood showed marked eosinophilia. In this case, the dermatosis was clearly of toxic origin. Not long ago, the speaker said, a woman was brought to the Cincinnati Hospital in an unconscious condition. Her body was as red as that of a boiled lobster, and the skin was dry and cracked readily. Her temperature, which was very high at the time of admission, gradually fell and finally became subnormal. The pulse ranged between 120 and 140 per minute. The treatment consisted of immersion in the continuous bath. The eruption was apparently a toxic dermatosis, but no cause for it could be discovered until the woman was finally delivered of a small, putrid fœtus, which explained the absorption of toxines from the uterus. Dr. Ravogli said he was glad to hear Dr. Anthony mention pellagra, which to the speaker's mind was a toxic erythema produced either by the absorption of mouldy substances found in the spoiled corn or from the presence of the products of fermentation in the intestines.

Dr. Sherwell said that one of the cases reported by Dr. Johnston recalled to his mind a case of angioneurotic œdema which ended fatally through laryngeal œdema. The patient was a woman of about thirty years of age, who suffered from œdematous lesions on various portions of the body. These would appear and disappear rapidly only to recur in other situations. Nothing in the way of medicaments or local applications were of the least effect apparently. Dr. Sherwell thought the œdema was probably due to some form of intestinal intoxication. If a similar case again came under his care, he would be inclined to try the effect of the preparation of thyroid extract, spoken of by Dr. Johnston.

Dr. Schamberg said that it was with a sense of rather hopeless confusion that one listened to the diverse points of view that were expressed in connection with these various dermatoses; and not without reason. The same drug, for instance, might produce a great variety of clinical phenomena in different individuals and, on the other hand, diverse causes might bring about similar clinical features. The speaker said he had had a rather large experience with the serum eruptions and some very interesting facts were to be gleaned from their study.

The periods of incubation of serum phenomena from the sera of different horses varied considerably—from two to fifteen days or longer. Likewise different horse sera varied greatly in their tendency to produce rashes. He had seen diphtheria serum uniformly produce an eruption in eight or nine days, whereas the serum from another animal would produce an eruption in two or three days. In addition to the uticarial, ringed and morbilliform erythema resulting from serum administration, one occasionally encountered also a scarlatinoid erythema, which was the type of eruption that usually occurred when the period of incubation was short; he could recall a series of such cases in which the eruption occurred one, two or three days after the use of a diphtheria antitoxine from a certain horse. These cases were very difficult to differentiate from scarlet fever. Among the cases with the longer incubation period, the usual type of eruption was an urticaria, although in some there were purpuric or ringed eruptions. Inasmuch as these sera were sterile one was forced to the conclusion that there was a definite chemical poison of albuminous nature, which through interaction with the cells and fluids of the body produced the eruption. The speaker said he would like to commend the attitude taken by Dr. Anthony in regard to his view of the arthritic pains and swellings in erythema multiforme. He agreed with him that the use of the term "rheumatism" was based on an error of comprehension and the same was probably true of the joint symptoms associated with erythema nodosum and purpura. Arthralgia and synovitis might be due to a variety of toxic and bacterial causes. With reference to the printed reports of so-called epidemics of erythema multiforme, Dr. Schamberg thought that Dr. Anthony's point of view was very well taken. Epidemicity did not necessarily imply contagion. The whole problem was one of great complexity, presenting many intricate phases and it would not be until we had mastered the mysteries of body chemistry that we would be able to adequately clarify our knowledge of this subject.

Dr. Grindon said that eosinophilia in dermatitis herpetiformis, to which Dr. Hartzell referred, was of little value in establishing the differential diagnosis between that disease and pemphigus. In a case of acute septic pemphigus, with large circinate blebs, and fatal termination, which the speaker reported in The Journal for October, 1909, there was an eosinophilia of over 19 per cent. The speaker said that he had recently seen a physician suffering from erysipelas supervening upon acute suppurative otitis media, the pus yielding a pure culture of streptococcus. He was given several doses of anti-streptococcus serum. The effect of this seemed to be very good and his temperature dropped almost to normal. After ten days there was an acute recurrence of the erysipelas, the temperature again rose and he was given another dose of anti-streptococcic serum, following which he developed a giant urticaria. The first injection produced no such results, so that it seemed as though the ten-day interval had given time for the production of anaphylactic substances.

Dr. Corlett said he had been very much interested in this symposium of the toxic dermatoses. The papers represented a great deal of thought and study. While we held certain views on this subject, we had not yet come to any definite understanding as to what relation these diseases bore to each other and there were many other factors that were still obscure. For a number of years, the speaker said, he had observed fewer cases of pemphigus than he did as a student and during the earlier years of his practice and he attributed this to the fact that a great many diseases which were formally regarded as pemphigus vulgaris were now otherwise classified. For example, Ritter's disease had been shown to be an infection due to the staphylococcus, which would exclude it from our usual understanding of pemphigus vulgaris. With regard to eosinophilia in relation to pemphigus, Dr. Corlett said he did not think it had any particular significance

in that connection. In a case which he reported before the International Dermatological Congress a few years ago, the patient, after a gun-shot wound, developed an eruption which clinically would be classed as a pemphigus vulgaris, but which was not so classified on account of the streptococcic origin of the infection. With regard to Dr. Johnston's assertion concerning hyperacidity associated with rosacea, Dr. Corlett thought it was well established that such was the case. For many years he had observed that an erythema surrounding the mouth was almost invariably associated with gastric disturbance and in connection with a colleague he had often, in the treatment of these cases, devoted attention to the gastric disorder without any local applications whatsoever.

Dr. Gilchrist said that in trying to understand the picture of the toxic dermatoses, we might use the drug eruption as an analogy. Some patients, for instance, would develop an eruption, usually an urticaria, after taking quinine or some other drug. We first had the ingestion of the drug, then its entrance into the circulation and, finally, its elimination by the sweat glands of the skin, which gave rise to the eruption. The same was true after the use of certain sera and these irritations were not difficult to understand if we regarded the sweat glands of the skin as excretory organs, similar to the kidneys. With the toxic dermatoses, we had only one end of the picture, namely, the skin eruption. The staphylococcus albus was a normal inhabitant of the skin, but under favoring conditions it might become pathogenic. The same was true of certain intestinal organisms and the speaker said that in his Presidential Address two years ago he mentioned the fact that since the staphylococcus albus lived normally in the intestinal canal and that sometimes, under unusual conditions, there might be a distinct multiplication of that organism in the alimentary canal and that possibly its toxines were then eliminated by the skin. In one case of bullous erythema, which did not yield to the ordinary treatment, the use of the staphylococcus albus vaccine seemed to be a powerful aid in the disappearance of the eruption and in the prevention of relapses. In this and other similar cases, the coated tongue failed to clear up under ordinary remedies, but rapidly cleared up under the use of the staphylococcus albus vaccine. In these cases, of course, the treatment was only experimental, but the results seemed to support the theory. The speaker said he did not think anybody knew what caused dermatitis herpetiformis. The albus vaccine was only employed experimentally and in the cases where it had been used it was very effective where ordinary remedies did not seem to produce good results. In severe cases, large doses of the staphylococcus albus vaccine were certainly worthy of a trial. The same was true in severe cases of the erythema multiforme group.

Dr. Towle said that Dr. Schamberg had called attention to the fact that toxic dermatoses of a similar nature might be the result of various causes. This was in accord with the statements of Dr. Gilchrist and bore out the theory advanced by Philippson and Török in regard to the action of toxines on the skin. They found that toxic albumin and other products produced these dermatoses. Their investigations had recently been elaborated by Gaucher in a paper in which he went even further and claimed that these lesions were often the reflex expression of overburdening and overirritation of the stomach digestive mechanism caused by improper methods of eating and that such overexcitation of the stomach may exist without demonstrable signs of indigestion. Dr. Towle said that in the treatment of these cases it had been his practice to prescribe a special diet, with the idea of eliminating a possible chemical toxæmia caused by the food products. The causes of these toxic dermatoses were doubtless multiple, but the mechanism of their production was the same.

Dr. Engman said that soon after taking up the study of medicine he was much attracted by the toxic erythemas and the fact appealed to him that a very good way to investigate them would be to study those due to known causes: for instance, those due to certain drugs. He began his investigations on a great many cases at the Poor House and in connection with that work he published one paper on the iodine and bromide eruptions. Soon after that the use of various sera came into vogue; these produced eruptions which gave rise to various theories which only complicated matters and he became convinced that the only way that we could get at the subject was to gain the coöperation of the laboratory men and the clinicians and he still thought that this was the key to the vast field of dermatological investigation. Such coöperation was necessary in order to unravel this subject. Dr. Engman said we, of course, very readily agreed that there was such a thing as a septic pemphigus and at the Skin and Cancer Hospital in St. Louis, they thought they saw a difference in the pathological picture between septic pemphigus and pemphigus vulgaris. In the former they found a leucocytosis, which was absent in the other. The speaker said he had carried on a great many other studies in this connection and in one of his papers on the subject he referred to the constant presence of indican in the urine of patients suffering with dermatitis herpetiformis. In one case, several such attacks, indistinguishable histologically and clinically from the usual clinical attacks, were induced by giving the patient potassium iodide. It was well known that these dermatoses were due to various causes; some were due to a microörganism, others to an intermediary toxæmia and others again, probably to anaphylaxis. The speaker recalled one patient, a young girl, who had an attack of erythema multiforme every time she ate pork chops and during one of these attacks she had an effusion into the retina of the left eye, together with the skin eruption. There was a certain group of eruptions, Dr. Engman said, which were undoubtedly the result of an intestinal toxæmia. In certain individuals, such a toxæmia would produce a pompholyx, in others a multiple erythema and in others a pemphigus. By placing pompholyx patients on a vegetable diet, it was remarkable to see how rapid their recovery often was. In these cases, the vegetable diet must be absolute.

Dr. Pusey said he had only one suggestion to offer in connection with this discussion. We were now groping in the dark, looking for tangible facts about the action of toxines in the body and he wished to call attention to a recent monograph by Martin Fisher, a prize essay of the Philadelphia College of Physicians, upon the affinity of colloids for water of different degrees of acidity. This perhaps, pointed to a working theory for many of the phenomena that occurred in the toxic erythemas.

Dr. King Smith mentioned a case of pemphigus vulgaris, where the patient, while under treatment and careful diet, became involved in business trouble and absconded. He was brought back from Hamburg and sentenced to prison for three years. Upon his release he told Dr. Smith that the relief from mental worry which he finally experienced when he was convicted was so great that it had a markedly beneficial effect upon his health and that his bullous eruption had disappeared permanently when he entered the penitentiary.

Dr. Knowles said he would like to mention briefly a few cases of toxic dermatoses that had come under his observation. One was a case of lichen planus of the generalized variety, with lesions on the mucous membranes and lips. After the patient had been under observation for about two and a half months he suddenly developed a multiple bullous erythema. After the disappearance of this, the lichen planus lesions returned. Dr. Knowles said he recently had

charge of a young boy at the Presbyterian Hospital, who developed a chill, followed by fever, together with a bullous erythema involving the lips, the mucous membrane of the cheeks and the tongue. At the meeting of the Section on Dermatology of the American Medical Association in St. Louis last year, the speaker said he reported two cases of toxic erythema produced by the ingestion of iodide. Recently, he saw two cases of a bullous eruption of the same generalized erythema multiforme type, chiefly involving one side of the trunk. In one of these cases the eruption was due to the absorption of belladonna from an adhesive plaster; in the other, it followed the instillation of atropine into the eye.

Dr. Hartzell said that while the symptoms of every dermatosis due to an infection were the result of a toxæmia, the term toxic dermatosis was usually employed to designate those affections due to non-bacillary poisons. There were certain toxic dermatoses, however, the so-called septic dermatoses following septic wounds, in which the symptoms were due to the absorption of bacillary toxines from localized foci of infection as distinguished from a general infection. The speaker said there was one type of urticaria which was very difficult to explain on the theory that it was of toxic origin, namely, the factitious type occurring as the result of purely local irritation. He had recently seen a case of scabies in which there was a very marked dermographism; and one of the most pronounced cases of dermographism he had ever seen, occurring in a patient under the care of Dr. C. N. Davis of Philadelphia, was due to pediculosis corporis. In such cases it was exceedingly difficult to see how the eruption could be of toxic origin.

Dr. Fordyce said the discussion had emphasized very distinctly that the toxic dermatoses were not due to any one cause, but were skin reactions due to a variety of causes. The eruptions produced by the iodides and bromides were fairly constant and were probably due to the direct action of the drugs on the cutaneous blood vessels. Modern investigation was endeavoring to explain the exceptional effects of drugs, food products, and other toxic agents on the cutaneous surface and on the general economy. In this paper he had incorporated the results of certain of these laboratory investigations and applied them to the explanation of the erythema group of skin diseases. It seemed to him that certain food products and toxic substances could so sensitize a patient that the subsequent outbreaks were more severe and frequent. This was especially true in the iris variety of erythema multiforme, in which lesions on the mucous membranes, elevation of temperature and general toxæmia had been observed. The speaker recalled such a case which he saw about a year ago where a young woman developed an erythema iris of the mouth after eating lobster. Subsequent to this she had a second and much more severe attack, with lesions as large as her hand and with such marked involvement of the mouth that she could not swallow. Apparently, she had become sensitized by her previous attack.

Dr. Johnston said that while we heard a good deal of the multiplicity of these eruptions and their causes, it was no less a fact that the same cause might produce multiple effects. For instance, from the same cause we might have a pemphigus, a pompholyx or a purpura. The cutaneous type, however, would generally run true in the individual. In reply to Dr. Sherwell, the speaker said that he did not use the thyroid extract in urticaria, for the reason that it was often associated with hyperthyroidism. He used adrenalin.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, November 28, 1911.

HERMAN G. KLOTZ, M.D., *President.*

Epidermolysis Bullosa. Presented by DR. FORDYCE.

The patient was a girl, thirteen years old, with a negative family history. Her mother noted absence of the finger-nails at birth and observed the first bulla a few days thereafter. Since that time she had had successive outbreaks of bullæ over the hands, elbows, knees and any part of the body where there was any undue pressure or traumatism. She suffered, also, from excessive hyperidrosis of the hands and feet. At times the lesions were hæmorrhagic, but generally contained pure serum. She had, at present, atrophic and pigmented areas over the elbows and knees, atrophy of the palms and malformation of the finger and toe-nails. She had also, over the forearms, grouped milia lesions similar to those seen after pemphigus and other bullæ. The speaker referred to the possible development of epidermolysis bullosa later in life and recalled a patient whom he had presented before the Society several times. In this patient similar lesions were elicited by traumatism and occupied much the same position as in the little patient who had just been exhibited, but they had developed during adolescence. For a number of years, at various times, she had had outbreaks which, objectively, suggested pemphigus. Dr. Fordyce offered the suggestion that there might be transitional forms between epidermolysis bullosa and true pemphigus.

DR. ELLIOT said that it would probably not terminate in recovery, according to the literature of the subject. He could not imagine, however, how a case of epidermolysis bullosa, could have any relation to pemphigus. He thought that in the case referred to by Dr. Fordyce, if the surface were rubbed for a few moments, the bullæ would be produced. In similar cases which he had seen they were so produced and he did not think that in a case of true pemphigus one could produce bullæ by any amount of rubbing. He could not see any correlation between epidermolysis bullosa and pemphigus.

DR. FORDYCE, replying to Dr. Elliot, said that in the particular case to which he had referred, the girl was a seamstress and had the lesions on the palms of her hands; they developed whenever there was any irritation of the surface. We

did not have much idea of the true pathology of pemphigus or epidermolysis bullosa and he had only mentioned the possibility of a transitional form as a suggestion. Replying to an inquiry from Dr. Sherwell, the speaker said that he had not followed these cases long enough to form an idea of the prognosis. This girl was thirteen years of age and had had the condition since birth. He could not say how it would probably terminate.

Lupus Vulgaris. Presented by Dr. Kingsbury.

The patient was a man, twenty-six years of age. He was fairly well-developed and apparently in good general health. He had a lesion on the right side of his neck which was about the size of a silver quarter. There was some central atrophy and in the elevated border there were several soft, red nodules. According to the patient's statement, the patch had been present for over a year.

Dr. Fordyce said that he could not say from a glance what the condition was, though it looked like lupus vulgaris. It could be easily determined by examining the tissue.

Alopecia Universalis. Presented by Dr. Kingsbury.

The patient was a man about thirty years of age. He stated that seven months ago several bald patches appeared on his scalp and in less than two months there was not a single hair to be found anywhere on his body. During the past month some of his eyebrows and eyelashes had returned and fine non-pigmented hair was beginning to appear on his scalp.

Lichen Planus. Presented by Dr. Kingsbury.

The patient was a man about forty years of age. The eruption began on the legs ten months ago and shortly after its appearance he received an intramuscular injection of salvarsan at one of the city dispensaries. When before the Society, he presented deep and very extensive pigmented areas on both legs. There were several small, annular lesions on the glans penis and white patches on the buccal mucous membrane. There were no lesions on the trunk or upper extremities. Dr. Kingsbury thought that possibly arsenic had had something to do with the very marked pigmentary changes.

Dr. Howard Fox said that it would be difficult to prove that the pigmentation was due to the arsenic in the salvarsan, though it seemed possible.

Dr. Jackson agreed with Dr. Fox. This intense pigmentation was often seen following lichen planus where no arsenic had been given.

Dr. Elliot said that as long as lichen planus might leave a pigmentation and as it was always intensified by arsenic anyhow, Dr. Kingsbury's suggestion seemed plausible, just as the pigmentation in psoriasis was intensified by arsenic. There seemed no more reason why it should not be produced by salvarsan than by any other arsenical preparation.

Dr. Fordyce said that he could not say whether the pigmentation was caused by the lichen planus or by the salvarsan. He had never observed pigmentation after the administration of salvarsan, but he had noted its frequent occurrence in lichen planus after the involution of the lesions.

Dr. Trimble said that he had noticed in several cases of lues treated with salvarsan, the persistence of the pigmentation. He thought that salvarsan was a causative factor in this extreme pigmentation, although the cases so affected were rather rare. Replying to a question as to whether these were papular eruptions, Dr. Trimble answered in the affirmative.

Photographs of Biskra Button. Presented by Dr. Howard Fox.

Dr. Howard Fox exhibited six photographs of Biskra button that had been kindly sent by Dr. Walter Booth Adams, Professor of Dermatology at the Syrian Protestant College, at Beirût, Syria. He also read extracts from a letter from Dr. Adams, commenting on the photographs and upon the disease as it existed in Aleppo, Beirût and other cities of Asia Minor.

Dr. Fordyce said that he had seen a case in New York some years ago. The patient was a girl from Armenia, who had two lesions on the arm, which she said had existed for about two years. No microscopical examination was made. Dr. Wright, of Boston, had studied the question some years ago.

Dr. Johnston said that four years ago he had had a case of kala-azar in the Cornell dispensary, the lesion being on the patient's forehead and about the size of a dollar. It had the general appearance of a granuloma, but no one could mistake it for a moment for lupus vulgaris. It was elevated, faint-red in color, had no scales, and no ulceration. Seeing at once that it was an unusual condition, a piece was cut out and stained with the Nocht stain and Dr. Ewing found intracellular parasites of the Leishman-Donovan species. It was called Biskra button, but it was not, clinically. The process might have been modified by the climatic conditions here. In November, 1909, Dr. Johnston had read an article by a Sicilian in the *Riforma Medica* who reported a dozen cases in his clientele which corresponded very closely with this case. The speaker had never reported his own, for the patient disappeared before a picture could be taken of the condition and the Leishman-Donovan bodies could not be photographed in tissue.

Dr. Sherwell said that he had recently seen a patient at the hospital who claimed to be the subject of an infection very much like the one Dr. Johnston had spoken of, the Biskra button. The man had three or four of these lesions on his forehead and claimed that he had been infected by a man who had just returned from the Philippines. The lesions looked like furuncles, although there was an appearance of granuloma in some of them. One was on the cheek, and one or two seemed to be beginning on the neck. He had removed some scrapings and sent them to the pathologist of the institution, who would report on the findings. Dr. Sherwell said that he had never seen anything like it before, but that it seemed to him to be something of the nature of yaws. One of the lesions had broken down in the centre giving rise to a muco-purulent discharge. There had been very little pain. The speaker said that he had injected the lesion with cocaine and applied his favorite remedy, the acid nitrate of mercury.

REPORTS ON CASES PREVIOUSLY EXHIBITED.

Sarcoma Cutis. Reported by Dr. Dade.

Dr. Dade said that he had removed several specimens from the patient whom he had shown last month, and sent them to different pathologists, none of whom had found anything to make them think it sarcoma. All that they reported was "an inflammatory condition".

Acanthosis Nigricans. Reported by Dr. Klotz.

Dr. Klotz said that he had recently heard from Dr. Rohdenberg about the case of acanthosis nigricans which the speaker presented before the Society in March. The man had recently returned from Germany and had developed a sarcoma of the os innominatum. At the time the case was shown it was impossible to find any external or internal evidence of malignant tumor.

Syphilis. Reported by Dr. Whitehouse.

Dr. Whitehouse reported on the case he presented at the October meeting, in which the nature of the ulcerative lesions on the face had cleared. It was the case originally presented for diagnosis by Dr. Fordyce. The lesions resembled both syphilis and tuberculosis. The patient had a positive Wassermann reaction this Fall though it was negative following the salvarsan injections in May. He had been given two more intravenous injections, although everything was healed and he was feeling very well. Dr. Whitehouse hoped to follow the case and report further results of the Wassermann test.

Syphilis Treated with Salvarsan. Reported by Dr. Trimble.

Dr. Trimble reported on the case of the pregnant woman who had lues, which he had presented at the last meeting. She was eight months pregnant. He had given her salvarsan intravenously. She had had no reaction and everything went on very well. The baby had not yet been born.

Syphilis Treated with Salvarsan. Reported by Dr. Fordyce.

Dr. Fordyce reported on the case presented at the previous meeting, in which the patient showed alarming symptoms after the intravenous injection of salvarsan. The man had marked lesions which had resisted treatment for two years. He was alcoholic and had been accustomed to taking many drinks each day. After receiving the injection of salvarsan his heart action became bad, his pulse feeble, he was cyanotic and it looked as though he were going to die. He rallied, however, and was now all right again. This was the only case Dr. Fordyce had ever had in which alarming heart symptoms developed after the use of salvarsan.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of GEORGE M. MACKEE, M.D.

BACTERIOLOGY AND GENERAL THERAPY.

By W. C. JAMIESON, M. D., Detroit.

New Views as to the Bacteriology and Treatment of Leprosy. Editorial, *Lancet,* clxxi, No. 4584.

Capt. T. S. Beauchamp Williams (*Indian Medical Gazette*) has grown four different types of organisms from cases of leprosy, but which he believes to be only different phases of the same organism. The first was a Gram-positive streptothrix—not acid-fast. The second was a diphtheroid bacillus, also not acid-fast. He believes, however, that these two varieties are convertible into acid-fast varieties by means of suitable methods of subcultures. He describes results obtained from inoculating lepers with vaccine made from both cultures of the acid-fast streptothrix. Local and systemic reaction invariably followed; the control cases were negative. He considers this method capable of immunizing patients against further spread of the disease and hopes to be able to effect cures in early cases.

Excessive Local Perspiration. A. H. PIRIE, *Lancet,* clxxi, No. 4589, p. 433.

Pirie had his attention first directed to this subject by observing that patients who had had X-ray treatment ceased to perspire on the part treated. In all his cases a cure or great improvement had been obtained by giving six sittings at monthly intervals of one pastille dose at each treatment. He uses this method since he had two burns of the first degree in his earlier treatments. He believes that the dose administered is able to destroy the cells of the hair, sebaceous and sweat glands without causing damage to the normal skin. In some tissue pathologically examined after such treatment no hair follicles, sebaceous or sweat glands were found. He concludes with a detailed account of his technique and a report of his cases treated by this method.

The Therapeutic Effects of Carbon Dioxide Snow, Methods of Collecting and Applying it. J. HALL EDWARDS, *Lancet,* clxxxi, No. 4584.

The author considers this agent far superior in most cases to the liquid air treatment as it is cheaper, easier to prepare and apply. He has obtained excellent results, especially in children, in various kinds of nævi, this treatment giving as good results as radium treatment at less cost and in a far shorter time. He has devised a special instrument for collecting, compressing, and applying the snow, which can be made to give any degree of size and hardness to the snow tablets.

A Further Note on the Clinical Use of Scarlet Red and its Component, Amidoazotoluol, in Stimulating the Epitheliation of Granulating Surfaces. J. G. DAVIS, *Bull. Johns Hopkins Hosp.,* xxii, No. 244, p. 210.

Davis reviews the literature on the subject, citing the results obtained by various experimenters in all varieties of ulcers, even those with considerable

purulent discharge and in some cases of radiodermatitis, as it produces a far more solid epithelial covering than any other method.

Most rapid results are obtained on clean granulating surfaces, but scarlet red may also be made up in combination with antiseptic ointments, which will clean the ulcer and at the same time hasten the epithelial process. The wounds should be cleaned with peroxide, boric acid or salt solution and then followed with iodine or nitrate of silver to keep down the granulations. The surrounding healthy skin should be protected with a mild ointment, then the scarlet red, in 4 to 8 per cent. strength, should be applied in a thin layer on perforated linen.

Experiments were made with proportionate amounts of amidoazotoluol and excellent results were obtained, the character of healing being about the same with both, but there was greater rapidity with the amidoazotoluol. Both applications increase secretions at first but the granulations soon become dry. Applications are best made for 48 hours with 24 hour intervals.

He believes that there is no danger of producing malignant growths, although there may be occasionally an epithelial overgrowth which soon becomes normal. The application of scarlet red and amidoazotoluol will give a rapid healing which is stable and resistant, which is normal skin macroscopically and microscopically and which has no subsequent tendency to contract.

HAIR, NAIL AND BULLOUS DISEASES.

By Frank Crozer Knowles, M. D., Philadelphia.

New Researches on the Aetiology of Pelade. R. Sabouraud, *Ann. de dermat. et de syph.*, 1911, p. 65.

Sabouraud studies the ætiological question from the hereditary and family point of observation. Nineteen cases of this affection are omitted, out of 100, because of insufficient data as to possible ætiologic factors. In 18 of the remaining 81 instances, other members of the family or those closely related were attacked by the disease; making the proportion of 22 in 100. Several cases were noted as occurring in the immediate families—in the collateral, ascending and descending branches. In 11 cases of the 100, the alopecia areata was directly hereditary; the tendency being more marked on the father's side than upon the mother's, in the proportion of 8 to 21. In these 11 cases the author encountered this affection in two collaterals, a brother and a sister, without the origin of this condition being found in the ascendants. It is more unusual to find a case of pelade in a collateral than in an anterior generation (ascendant indirect; uncle or aunt). This, however, was found in three of those observed. In two instances all the members of a family were attacked by this affection, the tendency being noted in three generations. Other interesting details were noted in the families exhibiting this disease; the frequency of death by convulsions and meningitis in the collateral branches seem to point to the ætiological importance of tuberculosis and syphilis. Several of the observations suggest the presence of syphilis. The latter disease was chiefly noted on the paternal side. There exists an hereditary pelade, according to the author, as proved by the cases mentioned. In concluding, the author asks, "what relative part do these different factors have in the ætiology"? The question remains pendent.

The Frequency of Pelade at Different Ages. R. Sabouraud, *Ann. de dermat. et de syph.*, 1911, p. 349.

Sabouraud has collected, during 9 months commencing September, 1910, 800 cases of pelade. No cases were observed earlier than the age of 4 or later

than 58 years. The pelade becomes a frequent occurrence starting at the age of 5 years. The maximum of frequency is at 6, 7, 8, 10 and 11 years; the number of cases declining with the 12th year of age. The critical period for the development of this affection is between the 6th and the 12th year. The affection is frequently seen at 15, 17, 18 and 20 years of age; after this period the curve of frequency falls more and more. Out of 200 cases, none appeared between 42 and 49 years. Fifty out of 100 of the cases made their appearance between 5 and 19 years of age. Pelade very rarely starts after 52 years of age; some few cases are, however, seen which have run a course of some years. Of 200 cases taken at haphazard, 130 were males and 70 were females. In an affection that is lightly ascribed as of nervous origin, it is rather singular that the condition occurs a little less than twice as frequently in the male as in the female. In comparing the age curve of the masculine and the feminine cases, there is a remarkable divergence. In the female the disease is most frequently found at the two extremes of sexual life, 14 to 15 years of age and in those in the neighborhood of 50. The latter could be called the pelade of the menopause. Very few cases develop in the male sex after the 40th year.

The Wassermann Reaction Applied to Patients with Pelade. R. Sabouraud and A. Vernes, *Ann. de. dermat. et de syph.*, 1911, p. 257.

The authors first take up in detail the Wassermann reaction, the various theories of application, the first stage of the reaction, the syphilitic antigen, complementary antigen, the measure of deviation of the activity of the antigen, the mode of employment of the same, the replacement of the syphilitic antigen in the reaction, the specific sensitiveness of the serum of the patient and the complement. The method of Wassermann was applied to 83 cases of syphilis and to 100 individuals attacked by pelade. Of these 100 cases 10 gave positive Wassermann reactions. One case had syphilis following the pelade, 4 did not know that they had had syphilis or else refrained from telling of it; 2 patients confessed to having had the disease when they were confronted with a positive reaction. The authors' researches gave a proportion of 9 cases of pelade out of 100, in which syphilis preceded the alopecia. The syphilis preceded the alopecia areata by from three to seven years. In three cases, an infant of 6 months, another individual of 10 years and a man of 23 years, the syphilitic infection was of hereditary origin. Four other cases of pelade were mentioned as following syphilis, by months or years, which exhibited a negative Wassermann reaction. These were either hereditary or had received a considerable amount of antispecific treatment. Eleven other cases were given in detail in which syphilis was present in the ancestors, but with a negative reaction in the present patients. In these latter patients dental affections and various changes in the nervous system were also noted.

Some Notes on the Technique in the Treatment of Non-Trichophytic Folliculitis of the Bearded Region by Zinc Ionization. R. Gaudcheau, *Ann. de dermat. et de syph.*, 1911, p. 287.

Although many methods exist for the treatment of this affection, electrolysis with the salts of zinc is an excellent procedure. Boisseau, in 1895, used the silver salts with the electric needle in the treatment of sycosis. Ten to 15 silver needles were introduced into the tissues, connected with the positive pole and a current of 4 milliamperes was applied to the labial region for 10 minutes and 7 milliamperes for the rest of the face. The cure was obtained after about 25 seances, extending over a period of 4 months. Several investigators have used zinc rather than silver in the ionization. The present cases were treated in the service of Dr. Thibierge, at the St. Louis Hospital and the result has been

a cure in a short lapse of time. The sensibility of the patient is practically the best guide as to the strength of the current to be applied, although a milliamperemeter may be employed for this purpose. The electrodes are made of plates of zinc or tin. Metallic cloth may also be employed, the electrodes being more easily applied. It is difficult to clean electrodes covered with chamois skin or with any other material of a like character and to entirely free these substances from the electrolytes previously employed. The results under these circumstances are not so satisfactory. The author treats the cases for from 20 minutes to ½ hour, rarely longer than the latter period. Two to 3 seances may be given each week. Improvement is usually manifested after the first application. Three to 4 treatments are usually sufficient to sterilize all the regions of the disease. The duration of the disease and the intensity of the eruption naturally governs the amount of treatment required. In the first case the anode was dipped into a solution of chloride of zinc, 2 parts to 100, and a current of 16 milliamperes was applied for 30 minutes. Slight pricking was noted during the passing of the current, but the procedure was without pain. Four cases are recorded by the author as having been expeditiously and successfully treated by this method.

Non-Congenital, Traumatic Pemphigus Localized upon Cicatrices. RENE LE BLAYE, *Ann. de dermat. et de syph.*, 1911, p. 178.

A patient, a male of seventy-five years, wore a support for a left-sided hernia. Three years ago the skin surface under this support became inflamed and excoriated; finally one and one-half years ago the patient was obliged to dispense with the apparatus because of the appearance of vesicles and bullæ. The lesions presented by the patient consisted of red plaques, irregular in outline, resembling cicatrices and which occupied a palm-sized area in the left inguinal region, the inner portion of the groin and the genito-crural regions, the scrotum and the thigh. Plaques and bullous lesions were also noted in the right inguinal region. The centre of the plaque was of a bright red color, fading in color toward the circumference. The border was distinctly separated from the sound skin by a narrow, cicatricial, white areola. The author, suspecting the artificial character of the eruption, experimented in the region of the outbreak by applying gentle oblique pressure with the head of a pin, in numerous areas, causing a slight folding of the epidermis. One hour after the inauguration of the experiment bullæ started to appear; two hours later the blisters were completely formed. Twenty-four hours after the development of the blebs there was a tendency for confluence to occur. The patient's tactile sensibility was slightly dulled, the reaction to pain and to heat were preserved and the reflexes were normal. The Wassermann test showed a negative reaction. Bullæ three hours old, showed the proportion of 20 to 100 eosinophiles; blebs twelve hours old, 90 in 100.

Two biopsies were made, the first, a short distance from the diseased skin and the second, directly in the affected area. The first biopsy included an artificial bulla aged three hours. The bleb was developed entirely within the epidermis, the roof was formed of the cylindrical cells of the generative layer and the floor of the papillary body. The papillæ were entirely denuded of epithelium and dipped into the cavity of the blister. The bulla was composed of two zones; a fibrinous, rich in leucocytes, polymorphonuclear for the most part; 50 or 20 out of each 100, however, were eosinophiles; the other superficial, non-fibrinous, with only a few cells. The epidermis was normal excepting for slight thinning. There was a slight degree of sponginess and some diapedesis of leucocytes into the mucous body. The generative layer was everywhere preserved, but the cells exhibited important alterations; at certain points they tended to flatten, at other points their nuclei had lost the affinity for basic stains. The derma did not

present any important alterations. In the papillary and subpapillary portions there was some discrete and also diffuse cell infiltration, consisting for the most part of polynuclear cells, although there were a good number of eosinophiles. The elastic fibres had almost completely disappeared from the superficial layers of the epidermis. In the deeper layers the latter fibres were normally present.

The biopsy made in the diseased area at the level of an artifically produced bulla of two hours' duration showed the bulla and the epidermis the same as in the first biopsy outside of the affected site. The changes in the derma, on the contrary, were much more important. Three zones could be easily distinguished under the microscope. The papillary body and the lower derma appeared normal, but the intermediate zone was markedly and very unevenly infiltrated. In the layer below the papillæ the infiltration was discrete in certain areas and confluent in others. It was formed of veritable follicles, one-half millimetre in diameter; at the level of the same the connective tissue fibres were destroyed. The large follicles consisted of a central zone formed of epithelioid cells with feebly staining nuclei; numerous karyokenetic figures could be seen. The peripheral zone was much darker in color and consisted of small lymphoid cells with well-stained nuclei. Outside of the latter zone were found a number of plasma cells, tending to form into small groups. There was some infiltration of fixed connective tissue cells. The capillary vessels of the derma were dilated and their lumina filled with polymorphonuclear leucocytes and other cells, for the most part eosinophiles. Their endothelial lining was thickened and swollen. Numerous mast cells were found along the course of the blood vessels. The elastic tissue was entirely absent in the papillæ and in all of the superficial portions of the derma. It was found at the points where there was only slight infiltration, but as isolated, fine and sinuous fibres, perpendicular to the surface of the skin. The destruction of the elastic fibres occupied the height of two-thirds of a millimetre. The arrangement and the destruction of the elastic fibres constituted the greatest histological change.

CORRESPONDENCE.

To the Editor:

In The Journal for January, 1911, Drs. Varney and Jamieson described a case as one of granuloma annulare (Galloway). Without going into the merits of their case, I should like to be allowed to point out that the disease was first described by the late Radcliffe-Crocker, who based his opinion on a clinical study. But when I had an opportunity of doing a biopsy on a case of this disease in 1902, I was able to show that in an undoubted example of granuloma annulare there was no histological evidence to support the view of a granuloma. I have, therefore, suggested the name "celluloma annulare," which is non-committal.

George Pernet, M.D.

APPOINTMENTS.

Dr. John T. Bowen has been appointed Edward Wigglesworth Professor of Dermatology, *Emeritus*, Harvard University.

Dr. Frederick S. Burns has been appointed Instructor in Dermatology, Harvard Medical School.

Dr. Harvey P. Towle has been appointed Instructor in Dermatology, Harvard Medical School.

Dr. Howard Fox has been appointed Consulting Dermatologist to the Harlem Hospital, New York City.

A LIST OF THE MEMBERS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION FOR 1911.

HONORARY MEMBERS.

Amicis, de, T.	Naples, via Médina, 47.
Boeck, Cäsar.	Christiania, Kristian August Gade, 14.
Darier, J.	Paris, 77 Bd. Malesherbes.
Fournier, Alfred.	Paris, rue de Miromesnil, 77.
Hansen, Armauer.	Bergen, Norway.
Hutchinson, Jonathan.	London, 15 Cavendish Square.
Lesser, Edmund.	Berlin, Roonstrasse, 12.
Morris, Malcolm.	London, 11 Harley St.
Neisser, A.	Breslau, Fürstenstrasse, 112.

CORRESPONDING MEMBERS.

Bertarelli, Ambrogio.	Milan, via S. Orsola 1.
Brocq, L.	Paris, 65 rue d'Anjou.
Campana, R.	Rome, via Arenula.
Columbini, P.	Siena, Italy.
Finger, Ernest.	Vienna, General Hospital.
Fox, T. Colcott.	London, 15 Harley St.
Gaucher, E.	Paris, 1 Square Moncey.
Hallopeau, H.	Paris, 91 Bd. Malesherbes.
Jadassohn, Joseph.	Bern, Pavillonweg, 7.
MacLeod, J. M. H.	London, 11 Harley St.
Mibelli, V.	Parma, 79 via Ventidue Luglio.
Riehl, G.	Vienna, Alserter 37.
Sabouraud, R.	Paris, 62 rue Caumartin.
Thibièrge, G.	Paris, 101 rue du Bac.
Veiel, Theodore.	Connstatt, Germany.
Walker, Norman.	Edinburg, 7 Manor Place.
Wickham, L.	Paris, 10 rue Washington.

ACTIVE MEMBERS.

Alderson, Harry Everett.	San Francisco, 308 Scroth Building.
Anthony, Henry Giles.	Chicago, 1251 Dearborn St.
Biddle, Andrew Porter.	Detroit, 57 West Fort St.
Bowen, John Templeton.	Boston, 14 Marlborough St.
Brayton, Alembert W.	Indianapolis, 24 Kentucky Ave.
Breakey, William Fleming.	Ann Arbor, 402 East Huron St.
Bronson, Edward Bennet.	New York, 10 West 49th St.
Bulkley, L. Duncan.	New York, 531 Madison Ave.
Campbell, Ralph R.	Chicago, 100 State St.
Carmichael, Randolph Bryan.	Washington, 818 17th St.
Corlett, William Thomas.	Cleveland, 1935 Euclid Ave.
Dyer, Isadore.	New Orleans, 2222 Prytania St.
Elliot, George Thompson.	New York, 36 East 35th St.
Engman, Martin Feeny.	St. Louis, Humboldt Building.

Foerster, Otto Hottinger.	Milwaukee, 128 Wisconsin St.
Fordyce, John Addison.	New York, 8 West 77th St.
Foster, Burnside.	St. Paul, 90 Lowery Arcade.
Fox, George Henry.	New York, 616 Madison Ave.
Fox, Howard.	New York, 616 Madison Ave.
Gilchrist, T. Caspar.	Baltimore, 330 N. Charles St.
Goldenberg, Herman.	New York, 701 Madison Ave.
Gottheil, William S.	New York, 154 West 77th St.
Grindon, Joseph.	St. Louis, 3894 Washington Boulevard.
Hardaway, William.	St. Louis, 4500 Olive St.
Harding, George Franklin.	Boston, 419 Boylston St.
Hartzel, Milton Bixler.	Philadelphia, 3644 Chestnut St.
Holder, Oscar Howe.	New York, 501 West 120th St.
Howe, James Sullivan.	Boston, 437 Marlborough St.
Jackson, George Thomas.	New York, 11 East 48th St.
Johnston, James C.	New York, 115 East 56th St.
Klotz, Hermann Gustav.	New York, 616 Madison Ave.
Knowles, Frank Crozer.	Philadelphia, 332 S. 17th St.
Leviseur, Frederick Jacob.	New York, 680 Madison Ave.
MacKee, George Miller.	New York, 58 West 58th St.
Montgomery, Douglass W.	San Francisco, Elkan-Gunst Building.
Mook, William Henry.	St. Louis, Humboldt Building.
Morrow, Howard.	San Francisco, Butler Building.
Morrow, Prince Albert.	New York, 66 West 40th St.
Ormsby, Oliver S.	Chicago, 100 State St.
Pardee, Lucius Crocker.	Chicago, 34 Washington St.
Pollitzer, Sigmund.	New York, 51 East 60th St.
Post, Abner.	Boston, 16 Newbury St.
Pusey, William Allen.	Chicago, 72 Madison St.
Ravogli, Augustus.	Cincinnati, 5 Garfield Place.
Rorinson, Andrew Rose.	New York, 159 West 49th St.
Ruggles, E. Wood.	Rochester, 348 University Place.
Schalek, Alfred.	Omaha, 400 Bee Building.
Schamberg, Jay Frank.	Philadelphia, 1922 Spruce St.
Shepherd, Francis John.	Montreal, 152 Mansfield St.
Sherwell, Samuel.	Brooklyn, 33 Schermerhorn St.
Stelwagon, Henry Weightman.	Philadelphia, 1634 Spruce St.
Smith, D. King.	Toronto, 22 Wellesley St.
Trimble, William B.	New York, 39 East 28th St.
Towle, Harvey P.	Boston, 453 Marlborough St.
Varney, Henry Rockwell.	Detroit, Washington Arcade.
Wende, Grover William.	Buffalo, 471 Delaware Ave.
White, James Clarke.	Boston, 259 Marlborough St.
White, Charles James.	Boston, 259 Marlborough St.
Whitehouse, Henry Howard.	New York, 38 East 49th St.
Winfield, James MacFarlane.	Brooklyn, 47 Halsey St.
Zeisler, Joseph.	Chicago, 100 State St.

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A CASE OF ACANTHOSIS NIGRICANS.*

By Charles J. White, M.D., Boston.

Assistant Professor of Dermatology in Harvard University.

History.

THE subject of this paper is an American girl, aged fourteen, who was sent to me in May 1910, by Dr. Hardy Phippen of Salem. Her mother writes that the very dark area appeared when the child was four years old (1900) and spread laterally until 1907, when extension of the plaque ceased. Then the general skin began to deepen in color, especially in a line from the umbilicus to the mons veneris. This pigmented line spread upward and became harder and rougher in spots. Since the summer of 1909 the skin of the face and neck has become rapidly involved. In the commencement of the disease a local physician had predicted that the skin would return to its normal condition at the age of puberty—the disease being due to a change in the suprarenal capsules. Menstruation began at the age of twelve but has been very irregular, especially recently. Her health is otherwise good except that the child "wilts unless she is much out of doors."

Dr. Phippen, who had seen the case a few times during 1908 and 1909, writes that on July 8, 1908, the girl was anæmic and showed a pigmented patch on the body. She received Fowler's solution and phosphate of iron. On July 28th, the anæmia was less marked and the dose of arsenic was increased to three drops. In February 1909, tonsillitis developed and two months later the child was found to be

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

still suffering from the effects of the tonsillar affection. She was still anæmic and was given Blaud's pills. On April 10th, an improvement was noted but the surface of the skin was found to be growing darker. Iron and arsenic were again prescribed. On July 14th, acne was present.

Cutaneous Examination.

Such is the story of the case up to the appearance of the child in my office. On inspection it was noted that she was of good size and good musculature, with well-developed breasts and axillary and pubic hair and was very myopic. The skin of the forearms and hands was decidedly blond and exhibited the venous network of passive congestion. The mother and father were also blond. On the right flank, extending under the breast toward the median line of the trunk anteriorly and posteriorly was found a chocolate-colored band about 2½ inches broad, darkest at its centre where the pigmentation first developed. The plaque as a whole was raised above the surrounding skin, the most elevated portion being at the central seat of origin. The surface of this area was cut up into irregular parallelograms by numerous deep, horizontal furrows and by short and shallower, less conspicuous, vertical depressions. These same characteristics, though less accentuated, were visible about each axilla, around the neck, in both groins, over the hip bones, around the navel, about the arms and on the labia majora. At the nape of the neck these cutaneous changes were especially marked and shaded off gradually up into the scalp. In addition to these areas, the whole surface of the torso, with the possible exception of the upper quadrants of the breasts and the deltoid regions, joined somewhat in this remarkable papillary and pigmentary dystrophy. The areola of the nipples presented a peculiar appearance of puffiness and disseminated, swollen, pigmentary nodules. The oral commissures exhibited a tendency toward papillation, while the posterior hard and the whole of the soft palates presented square elevations redder in color than the rest of the buccal mucous membrane. Scattered over the trunk were small, French pea-sized, almost black, soft nævi. The largest, that between the breasts, was present at birth or soon afterward; the others have appeared as time went on. The face was distinctly seborrhœic, dark in color, greasy, with scattered comedones and a few papules. No glands were palpable. The thyroid was not appreciably altered. Subjective symptoms were absent. Follicular plugging of the scalp or of the dorsal surfaces of the phalanges was absent.

PLATE IX.—To Illustrate Article by Dr. Charles J. White.

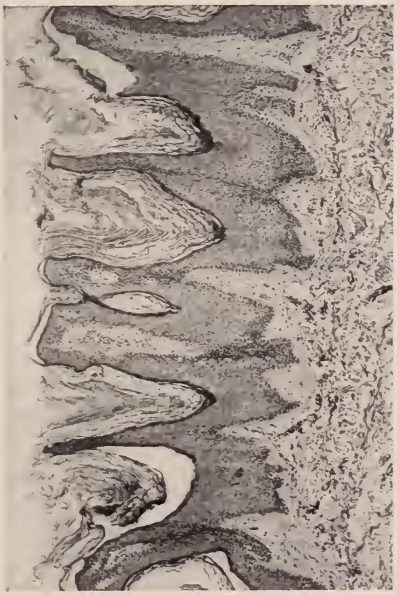

Fig. 2.
Acanthosis Nigricans.

Fig. 1.
Acanthosis Nigricans.

All the ætiological possibilities in this interesting case were considered and by exclusion the diagnosis of acanthosis nigricans was reached, and in order to find any possible hidden pigment-producing organic anomalies, the help of an internist was called upon and Dr. Roger I. Lee (to whom I therefore feel much indebted) made a thorough physical examination of the girl and reported as follows:

Physical Examination.

May 14th, 1910. "A well-developed and nourished girl; height, 5 feet, 1⅜ inches. Weight, 116 lbs. in her clothes. Temperature, 98.4° F. Pulse, 72. Respiration, 20. Hæmoglobin, 90%. Erythrocytes, 4,500,000; leucocytes, 4,800. Blood plates in normal numbers. Smears show essentially normal reds, no blasts, no plasmodia. Differential count of 200 leucocytes shows: neutrophiles, 62%; basophiles, 34%; eosinophiles, 3%; mast cells, 1%. Urinalysis, 24 hour specimen: color normal; reaction acid; specific gravity, 1,023; no albumin, sugar or bile; urea, 2.02%. Sediment shows no renal elements, no abnormal pigments, no melanin. Urine, on standing, does not show any change from its original, light-yellow color. Urobilin and indican in apparently normal amounts. Examination of fæces reveals brown, formed elements. The guiac test for blood is negative. Microscopically nothing abnormal. Normal pupils and reflexes. Good teeth. Clean tongue. Negative throat as to pigmentation. No enlarged lymphatic glands. No goitre. No mediastinal dullness. Heart not enlarged; sounds regular and normal; no murmurs. Pulmonic second slightly greater than aortic second. Nothing abnormal in the lungs. Liver extends from fifth space to costal margin, edge not felt. Spleen not palpable, no splenic dullness. Right kidney easily felt, not enlarged. Left kidney not felt. Abdomen generally soft and tympanitic; no masses or tenderness. No œdema. Blood pressure, 122 mm."

In this painstaking, complete physical examination no evidence has been found pointing toward adrenal disease, or other tuberculous process, Hodgkin's disease, carcinoma, or any other tumor formation, while the absence of heredity, of follicular concretions and of greasy, hypertrophic plaques, eliminates the possibility of the so-called psorospermosis (keratosis follicularis). Thus the most plausible diagnosis seems to be acanthosis nigricans.

At the child's first visit on May 5th, she was given, with the idea that the thyroid secretion might be deficient, Burroughs and Welcome's 1½ grain thyroid tablets, two per diem.

On June 18th, the mother thought there was no apparent change, but the patient and I felt that there was a decided decrease of pigment in the front of the neck and in the thoracic patch. The dose of thyroid extract was ordered to be increased slowly up to three grains after each meal and Rainier soap and a wash of green soap, oil of cade and alcohol were recommended.

On July 19th the mother stated that "it was not necessary to use glasses to note the improvement." An ointment of salicylic acid,

ichthyol and lard was ordered and the thyroid feeding, after a three weeks' intermission, was to be increased to 4½ grains three times daily.

On September 26th, the patient returned and the mother was still enthusiastic, but to my eyes no great change had occurred and the girl complained of lassitude without any apparent cause. The thyroid extract was stopped and sulphate of iron and magnesium was substituted internally, and 10 per cent. salicylated soap plasters were applied externally.

On November 5th the weight was 130 lbs.—a gain of 14 lbs. in less than six months. The child was sleeping out of doors, had a splendid appetite and while the pigmentation had not decreased, the previous elevation of the numerous foci had flattened down to the level of the surrounding skin. Internal medication was stopped, but the plasters and Rainier soap were to be continued.

On December 30th, the mother wrote that there was an improvement in the pigmentation, but that the skin was so greasy that the plasters would not adhere to the skin. The child was constantly tired and much influenced by her emotions, the shoulders were drooping and anorexia was marked. Thyroid administration was again advised.

Histopathology.

For histological study, material from the large pigmented area on the right flank was excised, hardened in several ways and stained by many methods.

Epidermis. Rete. This layer is the really important feature of the sections. One sees at a glance the propriety of the name chosen for the disease, for the great hyperplasia of the rete and the large amount of pigment are very striking.

The rete consists of many layers of cells which grow downward toward the corium, intersected from below by elongated broad or narrow papillæ and divided from above by deep inward U or V-shaped projections filled with loosely stratified, anucleated horny cells. The rete as a whole resembles that of a pigmented nævus. The palisade layer is not composed of typically elongated cells, but they are otherwise normal except for the almost continuous masses of brown-yellow pigment granules which fill them. These pigment granules apparently do not contain iron, for they do not assume a bluish tint in the presence of ferrocyanide of potash. Above the palisade layer the rete cells in many foci become abnormal in that they exhibit much shrinking of protoplasm from around the nucleus, which, in its turn often shows marked compression. They do, however, retain their prickles and their other characteristics, undergoing no other forms of degeneration. The stratum granulosum is conspicuous really for its insignificance. At times this layer consists of a single row of cells so sparse that they hardly touch one another. At times, even, these scanty cells disappear almost completely. The stratum lucidum is likewise deficient. The stratum

corneum exists in great abundance in the interspinous pockets just described; whereas, above the epidermis as a whole, the horny cells play a very unimportant rôle, that is, unless the accidents of preparation have carried this tissue away for the most part.

Corium. The papillary layer is everywhere elongated, sometimes as thin narrow projections, sometimes as broad upward spaces. The connective tissue composing these papillary growths and the underlying subpapillary space is very loose in structure and consists of a wide meshwork of short, isolated, rarefied, tortuous fibres. It supports vessels normal in structure with a minimal perivascular lymphocytic infiltration and tends toward basic, rather than acid staining. Below the subpapillary layer the fibrous tissue immediately becomes acidophilic and is composed of short, thick, tortuous fibres. The elastic tissue follows closely the characteristics of the fibrous element—sparse and short and delicate above, short and thick and meagre below. Here and there in these sections sebaceous glands assume great importance and in places appear as enormous compound racemose structures occupying almost the whole depth of the corium. The sweat glands, though small in numbers, are otherwise normal.

Such is the clinical and pathological story of this example of acanthosis nigricans which adds one more to the list of 53 cases which I can find described in dermatological literature. The eruption was noted at the age of four years which makes the case one of the earliest recorded. It is not the youngest, however, for Barsky, Pospelow and Buri have each noted a case at the age of two years and Wolf, Hügel and Spietschke (2 cases) have recorded cases beginning at three years. Otherwise the present example resembles the other infantile or young adult cases in its clinical appearances, distribution and symmetry and also in its freedom from cancerous complications, for no case of internal malignancy has been noted below the age of nineteen.

From a therapeutic point of view it is interesting to call attention to the actual improvement of the present patient under thyroid medication. It will be remembered that the child gained fourteen pounds in less than six months and that this increase in weight was accompanied by improvement in general health, in appetite and in the cutaneous condition.

DISCUSSION.

Dr. Gilchrist said he saw a case of this disorder last November. The patient was a priest who came to him complaining of some skin trouble and upon examination it proved to be a typical example of acanthosis nigricans. The man was subsequently referred to an internist, who found a small carcinoma of the stomach. Three weeks later, Dr. Gilchrist said, he saw another typical example of the disease in a woman. She had come to be relieved from an itching due to scabies and upon examination the lesions of acanthosis nigricans were found, which did not seem to bother her at all. She had lost forty pounds during the previous three months. The patient subsequently entered a hospital and was operated on for carcinoma of the gall bladder.

Dr. H. G. Klotz referred to a case of acanthosis nigricans which he presented at a meeting of the New York Dermatological Society in March of 1911. The patient was a man, sixty years old, who had retired from business about a year ago. He gave a history of having had enlarged glands in the neck in his youth, but of having been in good health except for having been operated on for appendicitis twenty-two years ago. The patient showed intense pigmentation of the face with a number of warty excrescences, swelling of the mucous membrane of the mouth, with warty growths of the lips; besides the neck, the axillary regions, the volar aspects of the elbow joints and the flexor surfaces of the knees presented the typical conditions of the disease more or less developed. His only subjective symptom was a terrible itching. The treatment consisted of a tonic mixture of arsenic and iron and Unna's ointment of carbolic acid and bichloride of mercury. He showed great improvement within a few weeks.

Dr. Howard Fox called attention to two cases of this very rare affection that had been seen in New York. One of these cases, a man of sixty, had recently been presented by Dr. Klotz at the New York Dermatological Society. The other case, a girl of nine, had been shown a few years ago by Dr. Allen. In the case of the child shown before the last Dermatological Congress the diagnosis of acanthosis nigricans had subsequently been withdrawn and a possible diagnosis of congenital ichthyosiform erythroderma made.

Dr. Schamberg said that about a year ago he saw in consultation a twenty-year old woman, with a pigmentation of the face, thighs and abdomen; scattered here and there were pinhead-sized flat and slightly elevated pigmentary nævi. The diagnosis, he thought at the time, rested between Addison's disease and acanthosis nigricans. The woman died two months later and the autopsy showed a typical tuberculosis of the right adrenal. Dr. Schamberg said the various visceral lesions that had been found in connection with this disease pointed to compromising of sympathetic nerves.

Dr. Pollitzer said that the most satisfactory explanation of the ætiology of acanthosis nigricans was that the disease was brought about through disturbances in the sympathetic nerves, more particularly in the splanchnic region, and that the cause of this disturbance was to be found in the malignant disease of the abdominal cavity from which the majority of these cases suffered. We recognized two groups of cases of acanthosis nigricans, the adult and the juvenile. In the former the prognosis was bad; most of them died of cancer. In the juvenile cases the disorder manifested itself in childhood or adolescence and the patients might live to old age. A satisfactory explanation of the juvenile cases was wanting, although Darier had suggested that the presence of congenital malformations, peritoneal adhesions or benign neoplasms, might cause an interference with the function of the splanchnic system. In regard to the disappearance of the cutaneous symptoms, the case of Spietschke was most interesting. The patient, a young woman of twenty years, exhibited typical and extensive symptoms of acanthosis nigricans and was found to have a malignant deciduoma. A radical operation was followed within a year by the complete disappearance of her cutaneous symptoms.

VERONAL POISONING.*

By S. Pollitzer, M.D., New York.

SINCE the introduction of veronal as a hypnotic about eight years ago, a considerable number of cases of poisoning with the drug has been reported. The medicinal dose of veronal is from one-half to one gramme, but the range of tolerance is a rather wide one; single doses up to eight or ten grammes or more have been taken without harmful effect[1]. Umber[2] reports the case of a healthy woman who recovered after a single dose of twenty grammes.

Among the symptoms recorded in cases of toxic effects from medicinal doses of the drug, vertigo, nausea and vomiting, stupor or mental confusion, muscular weakness, thirst and a macular and vesicular eruption on the skin resembling an antipyrin rash, are mentioned. The symptoms vary considerably, however, in different cases and in general we may divide all these cases into three groups: those in which a single large dose was taken by accident or with suicidal intent; those in which patients have exhibited an idiosyncrasy to even small doses; and those in which the continuous use of the drug in medicinal doses over a long period has resulted in the sudden development of toxic symptoms. I may illustrate with a few cases of suicidal poisoning from the literature.

Pap[3] reported a case in which nine grammes taken with suicidal intent produced coma and a marked coppery color of the entire skin, which disappeared after two days and recovery set in. There was no fever.

Masay and Drapier[4] reported a case in which a dose of five grammes was followed by coma lasting seven days, terminating in recovery.

Ehrlich[5] reported two cases of suicidal poisoning with eleven and thirteen grammes respectively, in which coma, cardiac collapse and death resulted and the bodies of the victims exhibited a decided yellowish-green color.

From the cases in which an idiosyncrasy to a single medicinal dose of the drug was exhibited I may select a few examples.

Davids[6] reported the case of a senile patient who received a dose of one gramme of veronal, was found semi-conscious the following day and exhibited an erythema over the entire chest, forearms and hands, accompanied by pruritus and followed after ten days by a large lamellar desquamation.

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

House[7] reported a case in which large wheals and a scarlatiniform eruption on the thorax, together with vertigo, depression, mental confusion and a temperature elevation to 103° F. developed in an elderly patient after a single dose of one gramme. The patient was well after three days.

Bulkley[8] reported a similar case after a dose of 1½ grammes.

Most of the cases of toxic effects from single moderate doses have occurred in elderly people.

The greatest interest, perhaps, is attached to the cases of cumulative action, in which the prolonged daily use of the drug in medicinal doses was followed by the sudden occurrence of toxic symptoms.

Würth[9] reported two cases in which an afebrile, morbillic, pruritic eruption, distributed mainly on the extensor surfaces of the extremities, occurred after the long-continued use of the drug.

Laurelle[10] reported a case in which one-half gramme taken daily for one month was followed by a pruritic, erythematous rash, with pains in the hands and feet, and subsequent desquamation in the affected areas of the skin.

Laudenheimer[11] reported a case in which after two months' use of veronal in doses of 2½ grammes, the patient developed a tetanoid condition with irregular and feeble pulse, cyanosis, shallow arythmic respiration and a morbillic and in part vesicular eruption.

Ormsby[12] reported a case in which 0.3 gramme of the drug was taken twice a day for five days, when the patient developed malaise, fever, coated tongue, and itching, especially on the fingers and toes and the dorsal surfaces of the hands and feet. The symptoms grew worse for three days with continued high fever and delirium. The hands, forearms, legs, and face became greatly swollen, red and pruritic, and as the dermatitis spread over the entire integument the picture of a universal erysipelas was presented. While the rash was at its height the temperature ranged from 104° F. to 106° F. All the symptoms subsided gradually and disappeared in a week. A general desquamation, as after scarlet fever, followed and later, the nails of the fingers and toes became black and brittle and were cast off.

To sum up all the symptoms observed in cases of veronal poisoning I may mention stupor, coma, mental confusion or excitement, vertigo, nausea, muscular weakness or incoördination, dilated or contracted pupils, diplopia, thirst, oliguria, temperature sometimes elevated, in severe cases subnormal, heart action and respiration usually normal, but depressed in severe cases and a rash which may be erythematous, morbillic, or scarlatiniform, with vesiculation on the extremities and, rarely, large bullæ on the mucosa. However the cutaneous symptoms may be explained, most of the disturbances noted may be ascribed to an effect on the central nervous system. In the few cases examined post-mortem, a hyperæmia of the meninges and of the kidneys was found. Of all the symptoms the most constant in all but the rapidly fatal cases was the eruption on the skin.

Case Report.

I was called last February to see a psychopathic patient in whom a rash had appeared that day.

The patient was a physically well-developed man about forty-eight years of age, who had been confined to his bed for several weeks as part of the treatment for his psychopathic disturbance. That morning he complained of itching and on examination an extensive rash was disclosed. On inspection I found the patient's face red and œdematous, the conjunctiva red and watery; on the anterior portion of the trunk, there were a few broad erythematous patches; on the back many such lesions, some of which were slightly raised like morbillic papules. The same character of eruption was present on the extremities and was especially marked about the extensor and lateral surfaces of the knees and elbows.

The patches were round or irregular in outline and varied from half an inch in diameter to three or four inches. Their color was dusky red, much darker than a morbillic eruption which, however, the smaller patches most resembled. On the soles, especially marked under the arch of the foot, there were numerous, small, deep vesicles like those of dysidrosis. Inspection of the mouth showed large, deeply congested patches on the mucosa of the cheeks and pharynx; the tongue was coated and whitish.

There was no stupor nor even somnolence; on the contrary, the patient seemed somewhat excited; but it was difficult to judge of this on account of the existing psychopathic condition. The temperature was 101° F. (38.3° C.); there was no splenic enlargement. An examination of the urine had been made; it was scanty in volume, dark colored, contained a small amount of albumin and a few hyaline and granular casts; there were no erythrocytes.

During the next two days the condition changed but little; the temperature was irregular, ranging up to 101.5° F. (38.7° C.), the rash was a little more pronounced, many patches becoming confluent and making—especially on the back, nates, knees, elbows and forearms—extensive areas of a deep-red hue and a few such patches could be seen on the scalp. The fingers were somewhat œdematous and stiff. In the mouth the horny layer over the dusky areas was thrown off, leaving eroded surfaces as in pemphigus; on the lower lip a few large flaccid bullæ were formed. About the anus a similar condition existed, and the eroded surfaces resulting here from the loss of epidermis caused the patient considerable suffering. The eruption after reaching its height on the third day slowly underwent regression and practically disappeared after a total duration of about eight days; but the eroded surfaces on the mucosa and about the anus were longer in healing. A desquamation of the affected areas on the skin followed the disappearance of the rash. The urine was gradually increased in volume, and became normal in character. The temperature became normal about the fourth day.

In the diagnosis of this case it was evident that I was dealing with a toxæmic eruption: and measles, Brill's disease, erythema multiforme (Osler) and a drug eruption had to be considered. The circumstance that the patient had for several weeks been confined to his bed and in charge of a trained nurse afforded me valuable data on which to make a diagnosis. Measles and Brill's disease were excluded by the absence of the usual prodromata of those diseases; there was no

malaise, no catarrhal symptoms, no temperature elevation preceding the eruption which was practically simultaneous with the rise of temperature. The eruption itself, furthermore, was hardly typical of either of these two diseases, though there were decided resemblances to both. Erythema multiforme of the Osler type with visceral complications could be excluded by the absence of rheumatic symptoms and especially by the absence of blood plates in the urine.

I made a diagnosis of a probable drug eruption and on inquiry learned that the patient had been getting one gramme of veronal every night for several weeks and that, furthermore, the drug had been given to him in powder form, undissolved, before ingestion.

In comparing this case with similar cases recorded in the literature, several points seem worthy of note. (1). The severe involvement of the mucosa and the anal region, with denudation of the areas affected have not been observed before, certainly not in so intense a degree. (2). The occurrence of a rise in temperature is extremely rare, and may readily lead to confusion in arriving at a diagnosis. (3). The occurrence of albumin and casts in the urine—an observation which I believe has not been made before. In most cases of veronal poisoning there is more or less marked oliguria and the urine is high in color and specific gravity. It is conceivable that an increase in the intensity of this effect on the kidneys may result in sufficient damage to these organs to give us albumin and casts in the urine.

In conclusion I may be permitted to emphasize the importance of care in the administration of this valuable hypnotic. It should, of course, never be given undissolved and it should not be administered daily over long periods of time lest it exercise harmful cumulative effects.

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DISCUSSION.

Dr. Schamberg said it was a matter of great importance that cases of unfamiliar drug eruptions should be carefully placed on record. The speaker said that a few years ago he saw a woman with a scarlatinoid eruption, with a red throat and a temperature of 102° F. He was at first inclined to regard the case as one of scarlet fever, but as the patient gave a history of having taken veronal, it was determined to wait until the rash disappeared and then again administer the drug. This was done, with the rapid reappearance of the rash and other symptoms.

Dr. Hartzell said he had had the opportunity, about a year or two ago, to see a case of veronal poisoning. In that case there was some elevation of temperature, together with an eruption resembling that of measles, which covered the trunk and upper extremities. So far as he could recall, the eruption did not involve the face.

AN INSTANCE INDICATING A CONNECTION BETWEEN ACNE AND ENLARGEMENT OF THE THYROID GLAND.

By Douglass W. Montgomery, M.D., and George D. Culver, M.D., San Francisco.

IT would seem superfluous to report one case of acne if it were not that we are among those who believe this disease to be the expression of a variety of causes, and that the case in hand shows, in a rather interesting way, the incidence of some of those causes.

It has been shown by Lovejoy and Hastings[1] that the acne bacillus may rest a harmless parasite in the sebaceous glands and we, from personal experience, know this to be true. It is probable, in fact, that the acne bacillus is almost universally present in every skin and that the presence of contributory causes is necessary before it becomes pathogenic and produces an acne eruption. Therefore, from the standpoint of treatment and even of ætiology the contributory causes assume the dignity of the primary one, as without their help the disease, acne, would not exist. From clinical experience we believe that some disturbance or disturbances within the body renders the skin, particularly its glandular structures, sensitive to the acne bacillus and the different forms of staphylococci and, therefore, that in any serious treatment of acne, what is called the patient's general condition should receive the closest attention.

A girl, seventeen years of age, applied for advice in regard to an indurated acne, with marked comedo formation, that had lasted several years, and had caused deep pitting. The location of the eruption's greatest intensity was that

[1] Isolation and growth of the Acne Bacillus. E. D. Lovejoy and F. W. Hastings. *Jour. Cutan. Dis.*, Feb., 1911.

part of the face which in a male would be occupied by a beard. The usual questions were put and the usual investigations were carried out to ascertain some reasonable cause for her trouble. We found that the patient was studying hard and that like most women under such circumstances she paid no attention to exercise. The whole skin had a muddy, dull color so frequently seen in acne. The hair was very oily, there was much dandruff of the scalp and the conjunctivæ were muddy yellow. The tongue was rough, bright red and irritable looking. Occasionally the patient would have a very large appetite, wishing to eat all the time and while in this condition had much pain in the scrobiculus cordis after meals. Her diet and her mode of eating were habitually bad. She overindulged in sugar and cream, and worse still, she was a constant visitor to an ice cream parlor kept by her brother. Besides, she used to eat irregularly and between meals.

The stomach tympany extended down almost to the navel, and there was marked splashing. Although she said the bowels were regular, the percussion note was dull over the left side of the abdomen in the situation of the descending colon, whereas on the right side, over the ascending colon, the percussion note was quite tympanitic. The conditions in the colon were, however, of course, changeable, and at another examination there was a marked tympanitic note over the location of the descending colon. The bloating was so severe that frequently after dinner she felt breathless. This bloating was probably due to dilatation with gas of both the stomach and bowels, and showed, of course, that there was faulty fermentation going on in the intestinal tract.

At the first visit it was noted that the patient had a very rapid pulse, and she complained that her hands and feet were always cold. After treating her for some time we found the skin, besides having acne, had still another peculiarity. Every summer her feet would burn, and become swollen, and their epidermal covering would peel off. We found, also, that the whole skin often had a flushed, full-blooded appearance and when pressed on by the hand, left a passive congestion mark.

The patient, therefore, had acne, seborrhœa, dermal erethism, gastro-intestinal catarrh, and an extremely rapid pulse. Her habits of eating were bad, and especially so in regard to the ternary bodies, the fats and carbo-hydrates, that in their fermentation are recognized to be so detrimental to the skin.[1] The diet was regulated so as to reduce the excess of these ternary bodies, and especially the milk fat and sugar, and as the patient was evidently anæmic and debilitated, iron and arsenic were prescribed. Topically, an eight per cent. resorcin paste, and a sulphur-camphor lotion were prescribed.

After being under treatment sometime it was noticed that while at home in one of the smaller towns of the State her improvement was slow, and attacks of hard, red "pimples" with many comedones were frequent, while when in San Francisco, her general health was better, and the condition of her face became much more satisfactory. It was at the beginning of one of her visits to San Francisco that swelling of the neck due to enlargement of the thyroid gland was noticed and this was instantly correlated with her rapid pulse and suspected also of being related to the flushing of the general cutaneous surface and to the peeling of the skin of the feet. She then stated that "swollen necks" were common among her friends and that "half the girls were going around with their necks painted with iodine." Her pulse rate was about 130. She began to improve while taking two grains of rhubarb and one of menthol twice a day and fifteen grains of lactate of calcium at night, along with exercise and regulation of diet.

[1] Autointoxication. Combe, p. 184.

We determined now to try the effect of a vaccine. On two occasions cultures were laid on glycerin agar and incubated, but no growth developed; then a stock preparation of staphylococcic-acne vaccine was used. Seven doses in all were given in January 1911, ranging from 10,000,000 acne bacilli and 100,000,000 staphylococci to 33,000,000 acne bacilli and 333,000,000 staphylococci.

Under this treatment the patient showed marked improvement, both in her general health, in her circulatory system and in the condition of her face. She went home and returned to us in five months, when she showed some recurrence of the acne. She said while taking the ordinary drinking water at home she was quite uncomfortable in her stomach. This discomfort disappeared on taking artesian water. She was able, also, to quite definitely associate a change for the worse in the condition of her neck and face while taking the town water, as, for instance, during an interval of two weeks when artesian water could not be obtained. It was also recalled that the congestion of the skin was worse and that swelling and peeling of the feet took place during the summer months, when the water supply would be low and, therefore, the peccant material present in greater concentration.

The case locally was not different from many other instances of severe acne of the papulo-pustular type with many comedones. During the two years we had this patient under observation, periods of improvement and of exacerbation were so definitely associated with her manner of living and particularly with the water she drank, that we are convinced her general condition was primarily at fault and that the acne was an external evidence of intricate internal disturbances.

It may be that the water in question caused some disturbance of some of the internal organs such as the pancreas or suprarenals and that a compensatory activity of the thyroid gave rise to goitre and hyperthyroidism[1], which in turn contributed to cutaneous erethism. That hyperthyroidism can cause cutaneous erethism, as shown by an increased amount of blood in the skin, or tendency to flush, vasomotor irritability and a susceptibility to acute inflammatory processes, is well known.[2] Interference with the pancreatic secretion would also seriously interfere with the digestion of the ternary bodies, the fats, the sugars and the starches, in which the patient so freely indulged. The products of their faulty fermentation would, therefore, also contribute to the bad condition of the skin. That this condition of the integument would be favorable to the development of acne is not a strained conclusion, but one in accord with the facts, for it has long been observed that acne is particularly apt to occur in

[1] Theory for the Pathologic Physiology Involved in Disease of the Thyroid Gland, and its Therapeutic Application. John Rodgers, *Jour. Am. Med. Assn.*, Sept. 2, 1911.

[2] The Skin as Influenced by the Thyroid Gland. Harry F. Alderson, *California State Jour. Med.* ix, No. 6.

a skin lacking vasomotor balance and prone to flush. This, for example, is the very condition of affairs in the rosacea of those who overindulge in alcohol. We do not mean to say that every acne patient has to have flushing of the skin. On the contrary many of them are particularly pale and anæmic; but this is another story.

Of the practical relationship between the taking of the suspected water in this case and the accentuation of the acne there is no doubt. When the patient took the water the acne grew worse; when she ceased the acne improved.

ARSENICAL CANCER WITH REPORT OF A CASE.

Udo J. Wile, M.D., New York.

THERE is, perhaps, no other remedy in the Pharmacopœa which enjoys, deservedly, so excellent a reputation in a varied number of conditions as does arsenic and its compounds. With the exception of salvarsan in syphilis, it may be said that in practically all other conditions, arsenic is administered because experience has shown it to be of value, that is, its application is empiric. Certainly in no other field of medicine has this empiricism been more manifest than in the realm of cutaneous diseases, for the treatment of which arsenic, formerly considered almost a panacea, is still extensively and successfully employed.

Of considerable interest are the various skin eruptions which may occur following the employment of arsenic for a shorter or longer time, including those noted in acute and chronic arsenical poisoning. The subject of "arsenical dermatoses" is thoroughly discussed in papers by Imbert-Gourbeyre,[1] Meneau,[2] Brooke and Roberts,[3] Morrow,[4] and Geyer.[5] Save by the last named, however, cancer as a sequence of arseno-therapy, is not mentioned in these monographs. Before introducing the other cases in the literature of this rare sequel of arsenic ingestion, I present the following case recently under observation as illustrative of the condition.

Case Report.

Mr. A. W., twenty-nine years of age, was kindly referred by Dr. A. Ziporkes for an intractable ulcer of the finger. A glance at the large number of keratoses on both hands led me at once to ask whether the patient had ever taken arsenic,

PLATE X.—To Illustrate Article by Dr. Udo J. Wile.

Arsenical Cancer.

to which question he stated that he had consumed large quantities of Asiatic pills ten years ago, as he thought they would be of benefit to his complexion. The arsenic had been taken over a period of two years and no ill-effect was noted until six years ago, that is, two years after he had ceased taking the pills. At that time the patient noted that his hands and feet became horny and besides the general horniness, numerous "warty growths" appeared on both hands and feet, on the dorsa and sides, as well as on the palms and soles. Three years ago, one of these small horny callosities on the ring finger of the left hand broke down and, attended with considerable pain, slowly grew to its present dimension (see photograph). The patient stated that from time to time he had irritated the wart with a pen-knife.

On examination I found the patient (a rather florid type), to be in excellent general condition. The skin of the entire body was harsh and dry, but there was no increase in pigmentation. The palms and soles were the seat of a diffuse hyperkeratosis and innumerable keratotic lesions varying from a pinhead to a pea in size. Such lesions also extended onto the dorsa of the hands and feet, along the margins of the fingers and onto the wrists. On the ring finger of the left hand at the level of the first joint, there was a deep circular ulceration, extending from the dorsum around the inner side, and involving the whole of the palmar surface of the finger at this level. The base of the ulcer was necrotic and the sero-sanguinous discharge therefrom was foul smelling. The edge of the ulcer was raised fully one-half cubic centimetre above the normal level; it was rolled out, firm and cartilaginous in consistency. The epitrochlear and axillary glands were not enlarged. The destruction of tissue was so great that I had little faith in any conservative form of treatment, and was much gratified, therefore, to note that, following nine short X-ray exposures, the ulcer had undergone distinct involution, its size being reduced about one-third, the edges had flattened out, the foul discharge had disappeared and the patient stated that he was relieved entirely from pain. The untimely death of the patient, at this time, from sepsis following an operation upon the genito-urinary tract, does not permit me to report further concerning his local condition. Owing to objection on his part, I was not permitted to do a biopsy, but succeeded in curetting away sufficient material from the edge of the ulcer to demonstrate clearly in sections the epitheliomatous nature of the lesion, and several colleagues whom I invited to see the case agreed in the clinical diagnosis.

The first reference to cancer in connection with arsenic which I have been able to find occurs in Paris' Pharmacologica (1826).[6] In discussing the properties of arsenious acid, Paris makes the following statement: "It may, however, be interesting and useful to record an account of the pernicious influence of arsenical fumes upon organized beings, as I have been enabled to ascertain in the copper-smelting works and tin-burning houses of Cornwall. This influence is very apparent in the condition both of the animals and vegetables of the vicinity; horses and cows commonly lose their hoofs, and the latter are often to be seen in the neighboring pastures crawling on their knees and not infrequently suffering from a cancerous affection of their rumps. . . . It deserves notice that the smelters are occasionally affected with a cancerous disease on the scrotum."

A search through the literature has enabled me to find fifteen cases of epithelioma following the internal use of arsenic and four additional cases in which psoriatic subjects developed epitheliomata, in all of which it is highly probable that arsenic was administered at some time during the course of the disease, although there is no note of this in the histories of these cases at my disposal. To avoid going into great detail, but in order to pick out the salient features in these nineteen cases, I have arranged them in their chronological order into the following two tables:

TABLE NO. 1. CASES OF EPITHELIOMA IN WHICH ARSENIC WAS TAKEN.

Case No.	Date.	Sex.	Age.	Disease.	Keratoses.	Location of cancer.	Histological examination.	Outcome.
J. C. White.[7] Case 1.	1885.	M.	27.	Psoriasis.	Numerous.	Both palms.	Epithelioma.	Recovery after amputation.
J. C. White. Case 2.	1885.	M.	52.	Psoriasis.	Present.	Wrist and anus.	Epithelioma.	Death from post-operative sepsis
Hutchinson.[8]	1887.	.....	.....	Same as J. C. White's		cases.	.....	.....
Hutchinson and Fay. Case 2.	1887.	M.	34.	Psoriasis.	Present.	Scrotum.	?	?
Albutt, cited by Hutchinson.	1887.	F.	25.	Pemphigus.	Not noted.	Iliac crest.	?	Death with gland metastasis.
Hutchinson. Case 3.	1893.	M.	35.	Acne.	Present.	Palm and scrotum.	Epithelioma.	Favorable.
Lane,[9] cited by Hutchinson.	1894.	M.	?	Psoriasis.	Not noted.	Multiple, location not noted.	Epithelioma.	?
Hutchinson. Case 4.	1898.	F.	45.	Epilepsy.	Present.	Fingers, palms, glands of neck.	Epithelioma.	Death.
Hutchinson. Case 5.	1898.	M.	?	Psoriasis.	Present.	Lower abdomen.	?	Death from exhaustion
Hartzell.[10]	1899.	F.	35.	Psoriasis.	Present.	Heel and fingers.	Epithelioma.	Death, metastasis to groin.
Ullmann,[11]	1900.	F.	37.	Acne.	Not noted.	Forehead and heel.	Epithelioma.	Operation, recovery.
Crocker[12] and Pernet.	1901.	M.	60.	Psoriasis.	Present.	Fingers and hand.	Epithelioma.	Amputation, recovery.
Darier.[13]	1902.	M.	37.	Bronchitis.	Present.	neck and hands.	Epithelioma.	Recovery.
Stelwagon.[14]	?	?	?	Psoriasis.	Present.	finger.	?	?
Wile.	1912.	M.	29.	Arsenic taken for complexion	Present.	finger.	Epithelioma.	Death due to other cause.

TABLE NO 2. CASES OF PSORIASIS AND EPITHELIOMA IN WHICH ARSENIC MAY HAVE BEEN ADMINISTERED.

Case No.	Date.	Sex.	Age.	Disease.	Keratoses.	Location of cancer.	Histological examination.	Outcome.
Cartaz.[16]	1877.	M.	40.	Psoriasis.	Present.	Finger.	?	Favorable.
Tillaux.[17]	1877.	M.	?	Psoriasis.	Not noted.	Dorso-lumbar region.	Epithelioma.	Favorable.
Pozzi.[18]	1879.	M.	43.	Psoriasis.	Not noted.	Foot.	?	Favorable.
H. v. Hebra.[19]	1877.	M.	?	Psoriasis.	Present.	Arm and thigh.	Epithelioma.	Exhaustion, death.

In addition to these tabulated cases, mention must be made of three others not reported in detail, but mentioned as occurring among the inhabitants of Reichenstein (Germany). These people, living near the arsenic mines, imbibe arsenic through the drinking water and are chronically poisoned by both the water and by inhalation. These cases are mentioned by Geyer as occurring in the private practices of Jahn and Habel, both resident physicians of Reichenstein. Geyer also mentions a case supposed to be reported by J. W. Power, in the Report of the Medical Office, Local Government Board of London, but a careful search of the literature has failed to reveal this case. In the above three cases cited by Geyer, the lesions all occurred on the fingers and hands.

Arsenic and epithelioma as probable cause and effect was first pointed out by Sir Jonathan Hutchinson,[8] although the two cases of J. C. White's in which epithelioma, following keratoses in psoriatic patients treated with arsenic, antedate Hutchinson's earliest report by two years. In White's[7] interesting cases, however, the possible ætiologic rôle of arsenic is not commented upon.

The question obviously of paramount importance in these cases, is whether the cancerous process is the direct effect of the long-continued use of arsenic, or whether the resulting well-known keratotic changes underwent malignant degeneration as a result of external irritative stimuli. In simplified form: has or has not arsenic the power, when taken for long periods, to produce malignant epithelial degeneration? This question was the subject of considerable discussion at the meeting of the American Dermatological Association, held in 1906, at which Schamberg[14] presented his case. Opinion at this meeting seemed to be divided.

Some interesting facts possibly having a bearing upon the solution of this question may be brought out by an analysis of the fore-

going tables. Of the fifteen cases in Table No. 1, ten were subjects of psoriasis. In Table No. 2, all four are reported as examples of epithelioma developing in psoriatics, in two of which keratoses were also present. In view of the fact that we do not know an epitheliomatous form of psoriasis it is more than probable that these patients had received arsenic at some time, the more so when one considers that they occurred at a period when arsenic was considered the remedy "par excellence" for psoriasis.

Considering for the moment the vast number of conditions in general medicine as well as in dermatology in which arsenic is employed for long periods, it seems more than a coincidence, that, of nineteen cases developing epithelioma, fifteen should have occurred in conditions in which an abnormality of epithelial growth antedated the uses of the drug (the case of pemphigus is included in this group). The influence, therefore, of a preëxistent epidermic disorder as a factor in the later malignant degeneration of the epithelium, whether that degeneration be the result of internal chemical or external mechanical stimulus, must be evident.

The presence of keratoses antedating the appearance of the epitheliomata is to be noted in twelve of the fifteen cases in Table No. 1. In the remaining five cases (in both tables) the presence of such lesions cannot definitely be ruled out, as their absence or presence is not commented upon in the case histories. Indeed, apart from the question as to the ultimate ætiology of arsenical epitheliomata, it seems highly probable from the evidence that all of them have had their starting point in keratotic nodules. In no case is there microscopic or clinical evidence of an epithelioma arising from the unbroken, normal skin.

A further point of great interest and one of considerable importance, in attempting to explain the origin of the so-called arsenical cancer, is the question of the site of the lesions. In this connection it must be noted from an examination of the tables, that the sites of predilection have been those exposed to frequent physiological or other trauma. In the predilection for the extremities, "arsenical epithelioma" stands in marked contrast to the other varieties of cutaneous cancer, in which the face is the most frequent seat of the disease.

Lastly, mention must be made of the fact that the appearance of the epithelioma in all the cases has occurred years—ten, twenty and even thirty—in some cases, after the cessation of the use of the drug. This fact is brought out in the various case reports, but has not been tabulated.

An impartial statement of facts, for and against the specificity of "arsenical cancer" might be arranged as follows: For the view that arsenic is the direct causative agent is: (1), the well-known selective action of arsenic on epithelial tissue in general and its rôle as a protoplasmic irritant as shown by Bunsen. (2) The relative malignancy of arsenical epitheliomata as against the benign course of those arising from other sources, speaks for a distinct type. (3) Other forms of keratoses such as clavi, histologically identical with arsenical keratoses and subject to constant irritation, never become malignant (Schamberg). Speaking for the specificity of arsenical cancer Hartzell[10] says, "Of the immense number of cases of keratosis that occurred in various diseases it is remarkable that this epitheliomatous degeneration should occur only in those instances that had been subjected to the long-continued use of arsenic." Exception to this statement, however, might justly be taken, in recalling that leucoplakia (a parakeratosis) is especially predisposed to malignant degeneration, as is also the keratosis produced by the X-ray, and senile keratosis; in fact most circumscribed keratoses of great chronicity have at least a tendency to malignant degeneration.

Against the direct action of arsenic as a cause, must be recorded (1), the great length of time elapsing between the cessation of the use of the drug and the appearance of the cancer, over thirty years in one instance. In such a case one would have to assume a degree of latency of activity unequalled by any other drug. (2) The precedence of keratoses in practically all cases, speaks for such lesions as the "anlage" of the subsequent epitheliomata. (3) In all but five cases an abnormality of epithelial growth has been preëxistent (psoriasis and pemphigus). (4) In no case have epitheliomata appeared on the unbroken and normal skin or following acute poisoning with arsenic. (5) Among the very large number of keratotic lesions produced by the ingestion of arsenic, the number which have undergone malignant degeneration is insignificant and such which have, have done so at sites especially exposed to friction and physiological trauma.

While not negating the direct action of arsenic in the production of epitheliomata, the above statements suggest certainly that other factors must also be present. That the actinic rays of the sun may cause epitheliomatous degeneration in certain sensitized individuals is a well-known clinical fact; to such an influence only can we ascribe the changes occurring in xeroderma pigmentosum. Through the studies of Bunsen,[20] Binz and Schulz[21] and others, we know that

arsenic by a process of ultimate oxidation in the cell acts as a protoplasmic irritant. The suggestion is now put forth by the writer that in cases of "arsenical epithelioma," the arsenic may have caused some chemical change in the cell which renders it especially sensitive to radioactive influence. From the foregoing, the following may be concluded:

The occurrence of epithelioma, following the use of arsenic, is in all probability the result of several factors. In the order of their importance they are:

A. The chemical action of arsenic acting as a protoplasmic irritant leading to the production of tissue especially liable to malignant degeneration.

B. The irritation and trauma to which precancerous lesions (keratoses) are constantly subjected.

C. The occurrence in most of the subjects of arsenical cancer, of a preëxisting chronic disorder and abnormality of the epithelial covering.

In addition to these factors, the suggestion, in arsenical cancer, that the changes may be due to chemical alteration of the cell, rendering it more sensitive to solar activity, seems worthy of further thought and investigation.

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A STUDY OF THE BLOOD AFTER INTRAVENOUS INJECTIONS OF SALVARSAN.

By George M. MacKee, M.D., New York.

Darier and Cottenot[1] observed a reduction in the number of erythrocytes a few hours after the intravenous administration of salvarsan. The most pronounced diminution was from 4,360,000 before the injection to 3,780,000 six hours after the treatment. They studied the blood with the idea of determining if the quantity of alkali in the salvarsan solution was an important factor. The final conclusion was that there appeared to be a greater destruction of red cells when the alkalinity of the solution was excessive. With the same idea in mind these authors also studied the urine and found an increase of urobilin after the injections, which would indicate that there was an actual destruction of erythrocytes and not a lessening of their numbers in the cutaneous circulation caused by an interference with the vasomotor system.

[1] Darier et Cottenot. De l'action nocive pour les veines et pour le sang des injections intraveineuses hyperalcalines d'arsénobenzol. *Bull. et mém. Soc. méd. d. hôp. de Paris,* 3s., 1911, xxxi, p. 41.

Sicard and Bloch[1] compared blood counts obtained before injections of salvarsan with those taken after the lapse of thirty-six to forty-eight hours. There was usually a substantial increase in the red cells from two to seven days after the treatment. No constant or marked change was noticed in the white count.

In a former article[2], I mentioned that I had observed a sudden drop in erythrocytes after intravenous injections of salvarsan, but that they had recovered, numerically, by the end of twenty-four hours. Since that time I have studied the blood of twenty-one patients both before and after the intravenous administration of the drug, the results of which are presented in the accompanying charts.

Two prominent features are instantly noted by a glance at the chart of the red-cell counts. The first is that there is a very definite relation between the systemic reaction and the fall in erythrocytes. The second fact is the relationship existing between the systemic reaction and the use of stale or freshly prepared distilled water. Not in a single instance was there a reduction in the number of red cells unless there was at least a mild systemic reaction. And right here let it be understood that the cases marked "no reaction" had no elevation of temperature whatever, no headache and no nausea; in fact there was no disturbance at all that could be detected, with the exception of a slowing of the pulse directly after the infusion. In two of the cases that suffered no reaction (Cases Nos. 17 and 18) there was a slight diminution in the number of red cells, but so slight as to be within physiological limits, or at least commensurate with the accuracy usually obtained in blood counts. In one instance (Case No. 11) in which there was a severe reaction there was no fall in the number of erythrocytes, but this was so contrary to the general rule as to make one consider the possibility of an error in counting the cells. In another instance (Case No. 3) in which the systemic disturbance consisted of an elevation in temperature of one degree, with no subjective symptoms at all, there was no reduction in the number of red cells. In all the remaining cases with systemic reaction there was a marked drop in the cells. Contrary to what might be expected there did not seem to be any definite relationship between the severity of the systemic reaction and the drop in erythrocytes. There was, however, a striking coincidence, in point of time, in the occurrence of a

[1] Sicard, J. A., et Bloch, M. Réactions hématiques au cours de la cure par l'arsénobenzol. *Compt. rend. Soc. biol.*, 1910, lxix, p. 625.

[2] MacKee, G. M. A Comparison of the Results Obtained by the Intravenous Administration of Acid and Alkaline Solutions of Salvarsan. *Med. Jour.*, New York, Oct. 21, 1911.

systemic reaction and a diminution in the erythrocyte count. In Case No. 16, for instance, the subjective symptoms began about two hours after the infusion and at this time the red-cell count was low.

RED CELL COUNTS AFTER INTRAVENOUS INJECTIONS OF SALVARSAN.

Case No.	Age	Weight, Lbs.	Sex	Dose, Gm.	1 h. before Injection	3 h. after Injection	5 h. after Injection	6 h. after Injection	8 h. after Injection	10 h. after Injection	24 h. after Injection	36 h. after Injection	Reaction of Solution	Severity of Systemic Reaction	Character of Distilled Water	Physiological Salt Solution	REMARKS
1	32	180	male	0.5	5,700,000			4,300,000			5,400,000	5,250,000	acid	mild	stale	no	Reaction 5 h. after injection. No vomiting.
2	31	165	"	"	7,200,000			5,400,000			6,800,000		"	"	"	yes	Reaction 5 h. after injection. No vomiting.
3	29	135	"	"	4,500,000			4,500,000				3,500,000	alk.	very mild	"	no	
4	29	160	"	"	3,200,000			3,800,000			3,400,000	3,900,000	acid	none	fresh	"	
5	35	180	"	"	4,870,000			4,920,000			4,740,000		"	"	"	"	
6	29	140	"	"	4,500,000			4,600,000			5,500,000		alk.	"	"	"	
7	35	210	"	"	5,400,000			5,600,000			5,600,000		acid	"	"	"	
8	38	115	"	"	3,600,000			3,900,000			4,000,000	4,300,000	"	mild	stale	"	
9	32	160	"	"	5,700,000			4,300,000		5,000,000	5,400,000		"	severe	"	"	Reaction 3 h. after injection. Sev. vomiting.
10	"	"	"	"	5,500,000			5,700,000			5,400,000		alk.	none	fresh	"	
11	42	102	female	"	3,200,000			3,800,000			3,400,000		acid	severe	stale	"	Reaction 3 h. after injection. Sev. vomiting.
12	31	136	male	"	5,300,000			3,700,000		4,200,000	5,000,000		alk.	"	"	"	Reaction 5 h. after injection. Sev. vomiting.
13	31	170	"	"	7,200,000		7,000,000	5,400,000			6,800,000		acid	mild	"	yes	Reaction 5½ h. after injection. No vomiting.
14	28	130	female	"	4,000,000			4,200,000			3,900,000		alk.	none	fresh	"	
15	31	170	male	"	7,000,000			5,600,000			6,850,000		"	severe	stale	no	Reaction 4 h. after injection. Vomiting.
16	31	160	"	"	6,400,000	5,180,000	5,600,000		6,570,000		6,660,000		acid	"	"	"	Reaction 2½ h. after injection. Vomiting.
17	30	110	female	0.4	3,920,000			3,840,000			4,110,000		alk.	none	fresh	"	
18	42	122	"	0.3	4,800,000			4,650,000			4,800,000		"	"	"	"	
19	31	130	male	0.3	4,400,000	3,900,000		4,120,000		4,240,000	4,300,000		"	very mild	"	"	
20	32	165	"	0.5	5,600,000			5,800,000			5,400,000		acid	none	"	"	
21	28	170	"	0.5	4,800,000			4,500,000			4,670,000		acid	none	"	"	

Another prominent feature was the prompt numerical return of the red cells to normal, or at least to the count made before the infusion. To return to Case No. 16 again, the count was 6,400,000 one hour before the injection, 5,180,000, three hours after the infusion, 5,600,000 two hours later, and 6,570,000 eight hours after the treatment.

The fact that the return to normal was so prompt would tend to make one think that the reduction in the number of erythrocytes might possibly have been caused by their temporary removal from the peripheral circulation through the action of the vasomotor system, which had been influenced by shock or by substances other than the salvarsan. In other words that there was no hæmolysis.

It does seem that salvarsan itself plays no part in reducing the count, for in no case was there a substantial reduction in the number of red cells where there was no systemic reaction and there was no reaction when the technique was properly conducted.

This naturally brings up the question of proper technique and whether a reaction can or cannot be avoided. Ehrlich's contention that salvarsan, except in a limited number of cases, will not produce the usual symptoms commonly seen after infusions of the drug, but that the reaction is due to bacterial products contained in the sterilized water, seems to be well founded. The first I heard of this was when Dr. Fordyce returned from Germany last summer and until I could arrange for the distillation of water in my own house, he very kindly allowed me the use of the apparatus in his office. To totally avoid a reaction it appears to be necessary to sterilize and utilize the water within two or three hours after its distillation. It is also advisable, in order to eliminate all sources of contamination from bacterial products, that fresh distilled water be employed for the cleansing and sterilization of all glassware and instruments used in the preparation of the salvarsan solution. The sodium hydrate solution should be prepared from the same water and must be clear. The injection itself must be given under the usual aseptic conditions. Where the technique has been flawless I have not had more than an exceedingly mild reaction and usually none at all. It is possible that an occasional patient will react to the salvarsan itself. I have occasionally obtained a sample of distilled water from a druggist which did not cause a reaction, but if the patients, in the cases where such water is employed, are carefully observed it will undoubtedly be ascertained that most of them will show at least a mild reaction. With the use of properly prepared water I have had no reaction in cases

in which the solution contained more alkali than was necessary and in solutions which contained no alkali at all. There is hardly any doubt but that this new addition to the technique is an important one.

Numerous smear preparations of blood were carefully examined, but no change in the character or structure of the erythrocytes was noticed—no granular degeneration, poikilocytosis, nucleated reds, polychromatophilia, etc.

LEUCOCYTE COUNTS AFTER INTRAVENOUS INJECTIONS OF SALVARSAN

Case No	TOTAL COUNT			DIFFERENTIAL COUNT PER CENT.															
				1 hour before injection					6 hours after injection					24 hours after injection				
	1 hour before injection	6 hours after injection	24 hours after injection	Polymorphonuclears	Lymphocytes	Mononuclears and transitionals	Eosinophiles	Basophiles	Polymorphonuclears	Lymphocytes	Mononuclears and transitionals	Eosinophiles	Basophiles	Polymorphonuclears	Lymphocytes	Mononuclears and transitionals	Eosinophiles	Basophiles
1	7,800	11,400	8,200	62	28	7	2	1	75	19	6	0	0	63	28	5	1	3
2	5,200	5,400	5,600															
3	6,900	7,200	6,900	60	29	9	1	1	66	24	9	1	0	62	28	8	1	1
4	5,800	6,100	5,900															
5	9,600	9,400	9,700															
6	8,400	8,600	10,000	69	26	5	0	0	70	26	4	0	0	75	20	5	0	0
7	7,200	8,400	8,200	70	19	7	2	2	76	16	6	0	2	72	17	8	1	2
8	6,400	7,100	6,800	67	21	10	1	1	70	18	9	2	1	68	20	11	1	0

Somewhat conflicting reports on the white-cell counts are found in the literature. Most of the work done on the leucocytes seems to have followed intramuscular injections. Inasmuch as it has been insinuated that the action of salvarsan on the hæmatopoietic organs is closely associated with the drug's success in combating the disease, it would seem advisable, in order to arrive at definite conclusions, for independent observers to study the leucocytes after both intramuscular and intravenous injections of the drug. As may be seen by a

glance at the white-cell chart, only eight cases were studied. The investigations were then discontinued because the results were seemingly inconstant and insignificant. Allowing for the usual discrepancies in leucocyte counts, due to actual error on the part of the microscopist, the influence of food, etc., the total count in six of the eight cases was practically the same one hour before, six and twenty-four hours after the infusion. In Case No. 1, the total count increased from 7,800 to 11,400 six hours after the treatment. A return to the normal was noted in twenty-four hours. In Case No. 6, there was an exceedingly moderate increase of the leucocytes (about 2,000) which, however, did not occur until the day following the injection.

The differential counts presented slight modifications which appeared to occur with some regularity. The variation was, however, so slight as to demonstrate the necessity for the examination of a large number of cases before it would be wise to hazard a positive opinion. Furthermore, such a study should be made the basis of a comparison with similar observations held upon untreated individuals and upon patients who have been subjected to infusions of other substances; even of plain water. The most notable feature in the differential counts was the constant increase of the polymorphonuclears and a diminution of the lymphocytes a few hours after the treatment. A second feature was the tendency to a return to the normal within twenty-four hours. No definite relation between the leucocyte count and the presence or absence of a systemic reaction was noted; nor was there any difference observed between the influence of acid or alkaline solutions.

Neuber[1] tested the phagocytic properties of the leucocytes upon staphylococci after the administration of calomel, sublimate and salvarsan. He ascertained that large doses of the first two chemicals produced a lowering of the function, while large doses of salvarsan exerted practically no influence. Small quantities of any one of the three drugs slightly increased phagocytosis.

Baugher and Vaughan[2], working in the laboratory of St. Luke's Hospital, Chicago, found that there was a rapid and marked augmentation of the leucocytes after the intramuscular injection of sal-

[1] Neuber, E. Influence exercée par quelque produits antisyphilitiques (sublimé, calomel, "606") sur la phagocytose. *Ann. de dermat. et de syph.*, Jan., 1911, xi, No. 1, p. 41.

[2] Baugher, A. H., and Vaughan, R. T. Blood Findings After Salvarsan Injections. *Tr. Chicago Path. Soc.*, June 1, 1911, viii, No. 6, p. 176.

varsan. The number of white cells increased rapidly during the first twenty-four hours; this slowly continued throughout the second day and reached a maximum on the second to the fourth day. A gradual reduction then occurred, the normal being reached from the sixth to the tenth day. The increase in leucocytes consisted mainly of polymorphonuclear neutrophile cells. In one case a reduction in the neutrophiles directly after the injection was noted, but the usual increase occurred on the ensuing day. The authors state that the resemblance of this curve to that of antibodies following acute intoxications and acute infections should be noted.

The large and small lymphocytes showed a progressive relative diminution up to the fifth day, when they gradually returned to normal. The transitionals and large mononuclears showed an absolute and relative increase, with the maximum from the second to the fifth day. There was a relative and absolute diminution of the eosinophiles with the maximum on the third or fourth day. Myelocytes were rarely seen, never any nucleated reds, polychromatophilia or poikilocytosis. There were no constant changes in the red count nor in the percentage of hæmoglobin.

The authors considered (1) that the absence of the iodophilia reaction and the not very high relative increase in the polymorphonuclears would speak against septic infection being a prominent factor. (2) That the leucocytosis might play an important part in the mechanism of cure. (3) That the salvarsan did not produce the anæmia, hæmolysis, hæmoglobinuria, jaundice, etc., often seen in arsenical poisoning. (4) That the character of the action on the bone marrow was stimulating; indications of a toxic paralysis of the marrow centres of hæmatogenesis were not obtained.

Yakimoff[1] calls attention to the fact that Neisser, Herxheimer and Schonnenfeld, Braendel and Clingestein, Frankel and Grouven, Spiethoff, and Wechselmann have all noted a leucocytosis after intramuscular injections. Spiethoff considers the increase in white cells to be due to the action of the drug on the bone marrow and not to the local or the general febrile reaction. Yakimoff sees an analogy in the action of salvarsan in leukæmia as reported by Torday.

Yakimoff, working in Mesnil's laboratory, studied the blood of white rats and mice, some of which were healthy, while others had been infected with the Spirochæta Duttoni and the Treponema gambiense. He found that the total white count was lowered directly

[1] Yakimoff, W. L. De l'influence de l'arsénobenzol sur la formule leucocytaire du sang. *Ann. de l'Inst. Pasteur,* May 25, 1911, xxv, No. 5, p. 415.

after the administration of the drug, but after a day or two there was an increase in the total count. At first there was an increase in the neutrophiles and a diminution of the lymphocytes, but after a few days the reverse was true. His theory is that the early action of salvarsan is directly upon the white cells in the circulation, the young cells being stimulated to rapid maturity and the neutrophiles suffering a precocious death. Later, the bone marrow is stimulated, causing an increase of young leucocytes in the circulation and the direct action upon the cells of the blood ceases. In other words, the primary action of the drug is an inhibitory one on the hæmatopoietic organs with the above-mentioned influence on the cells of the blood. Later, the hæmatopoietic organs are stimulated and the action on the cells in the circulation ceases. It is possible, the author thinks, that so many young, active cells in the blood stream may be a great help in establishing immunity. Studies conducted on two monkeys, although showing a different blood picture regarding the total count, demonstrated the same relation between the lymphocytes and the neutrophiles as was obtained in the rats and mice.

Yakimoff noticed very little if any effect on the red cells. In the infected rats, where the count was low, there was a substantial gain in the number of erythrocytes, but as the author states, this might be due to an indirect rather than a direct action. He quotes Leger, who found a temporary diminution in the red cells after the administration of emetics. This observation is interesting in connection with the transient fall in erythrocytes after the intravenous injection of salvarsan associated with a systemic reaction, as occurred in my cases.

In conclusion, I desire to thank Dr. Arthur M. Wright, Dr. J. H. Wycoff, Jr., and Dr. Robert P. Wadhams for their kindness and painstaking care in making the blood counts.

CORRESPONDENCE.

Oriental Sore.

To the Editor:—

Shortly before the publication in The Journal of Dr. Darling's interesting paper on "Oriental Sore," I received a letter upon the same subject from Dr. Walter B. Adams, Professor of Dermatology in the Syrian Protestant College at Beirut. In addition to his personal observations, Dr. Adams has also kindly sent me some photographs of the disease which will perhaps be of interest to the readers of The Journal, as the subject is one with which few in this country have had any experience. In his letter from Beirut, dated November 10, 1911, Dr. Adams writes as follows:

PLATE XI.—To Illustrate Letter from Dr. Howard Fox.

Fig. 1.
Oriental Boil.

Fig. 2.
Oriental Boil.

Fig. 3.
Oriental Boil.

Fig. 4.
Oriental Boil.

"Aleppo is the great 'button factory' in this part of the world, though in Baghdad, the cases are more numerous and severe than in Aleppo. A few weeks ago I had the pleasure of a long visit with Dr. Wenyon of the London School of Tropical Medicine, on the completion of his investigations of the 'button' in Baghdad and Aleppo. He called on me here in Beirut. While the Leishman-Donovan bodies are now quite established as the cause of the disease, it is by no means certain what carries the parasite. I believe, and so does Dr. Altunian of Aleppo, that the mosquito is responsible. Dr. Wenyon seems rather inclined to the sand fly, but I do not think he is on the right track in this regard.

"We have the disease occasionally here in Beirut. I have seen cases in people who have never in their lives been out of this city. It is very common in some of the suburbs of Beirut, Shweifat, Hadeth and Juny and in some of the villages of the Lebanon range, particularly in those which have many springs and an abundant water supply.

"The scattered or multiple type of the disease is called by the people the 'male' variety, while large, long standing, severe lesions, generally single, are called the 'female' variety. I do not know why. It is all one and the same button.' I beg of you not to call it a boil. There is no central core, there is no pain, two of the essential qualities of the boils that once afflicted me. The term 'button' is admirable and distinguishes it from other diseases, unless we accept the 'mean man's wart' that he had on the back of his neck and which he used for a collar button.

"The enclosed photographs were taken in Aleppo and are really very typical and are good specimens of the disease. All are boys. I suppose it is hard to induce girls to pose for their pictures. It is quite as common in the female as in the male sex, and you can understand how disfiguring it is. It is so common that it is as little thought of in Aleppo as a vaccination mark on a boy's arm at a swimming pool. It is no bar to marriage there, being regarded as a necessary evil."

In commenting upon the illustrations, Dr. Adams remarks that one of the patients (Case 1) is "well buttoned up despite the charm of the beads and the beshliks" that it is wearing. He adds that the beshlik is a Turkish coin, a little more than an inch and a half in diameter and worth about eleven cents. In Case 2, "the lesion is beginning to crust, mixed infection is taking place." Case 3 shows small lesions upon the hand and larger ones upon the nose which is "by no means an uncommon site of the disease." Case 4 presents lesions upon the cheek, forehead and ear, "which are all healing and quite typical of the 'button' as it is nearing its end."

HOWARD FOX.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, December 19, 1911.

HERMAN G. KLOTZ, M.D., *President.*

Diffuse Macular Atrophy of the Skin. Presented by DR. G. H. FOX.

The patient was a Russian woman, thirty-eight years old, who had been in the United States for nineteen years. During this time she had suffered a good deal from indigestion. She was the mother of six rather delicate children. No member of her family had ever suffered from any similar disease of the skin. The eruption on the breasts was first noticed about ten years ago, that upon the trunk and extremities about two years ago. The eruption was worse in winter than in summer. It had only recently occasioned much itching. There had never been any oozing according to the patient's statement. Examination showed the presence of large, diffuse patches on the back, chest, arms and legs, which were reddish, dry and slightly scaly and presented numerous, small, atrophic spots. On the breast there was a reticulated, macular atrophy somewhat resembling the telangiectases following X-ray treatment. At a certain angle of light the atrophic spots had a white, shining appearance and a tendency to linear distribution. The elbows and knees presented the usual picture of diffuse atrophy of the skin. The patient was well nourished and appeared to be in good general health. She had never been treated by the X-ray.

DR. G. H. FOX said that an erythroderma often preceded the development of atrophy and sometimes an eczema was present. The patient had had the atrophic condition for ten years and it seemed strange that it had not progressed more rapidly. He had never before seen the peculiar condition of the breasts in connection with atrophy of the skin.

Recent Syphilitic Infection Accompanied by Facial Paralysis. Presented by DR. FORDYCE.

Dr. Fordyce said that this patient had a recent syphilitic infection and a left-sided facial paralysis. The speaker said that he had called attention to the occurrence of paralysis of the facial nerve in the second-

ary period of the disease about twenty years ago and since that time had observed several cases. He presented this patient on account of the discussion as to the possible effects of salvarsan on the various cranial nerves. The patient was in the florid stage of the disease and her facial paralysis developed before any treatment had been instituted. He had observed two cases occurring after salvarsan treatment, one after three injections of the drug and the other after one. Both of these patients cleared up under additional salvarsan treatment. In one of them a spinal puncture had revealed a very large increase of lymphocytes, showing the presence of meningitis. Because of the rapid disappearance of the paralysis after further treatment with salvarsan, it was fair to assume that in both instances a meningitis was present. Dr. Fordyce said he had never seen involvement of the auditory nerve after salvarsan, but had observed at the City Hospital last Spring a case of complete deafness in both ears occurring in the secondary stage of the disease without any treatment whatever. In this patient the deafness was not influenced by salvarsan or mercury. Replying to a query from Dr. Morrow as to whether the patient presented had had any treatment, Dr. Fordyce said that she had had none before the development of the facial paralysis, but was now under mercury.

Dr. Morrow said that he had seen a good many cases of paralysis in the early stages of syphilis and was satisfied that they were not necessarily due to salvarsan, for he saw them long before salvarsan was discovered. Judging from a recent article by Finger, however, these nerve occurrences were much more common after salvarsan than after mercurial treatment, or without any treatment at all. It seemed to be more than a coincidence. While all of these cases were not due to salvarsan, their more notable frequency since salvarsan had been used extensively, would lead one to think that there was some causal connection between the two. There was nothing surprising in the fact as arsenic might affect the nerve tissues very markedly from its physiological action. He thought that Dr. Fordyce's position was quite correct—that salvarsan was not necessarily the ætiological agent in causing the paralysis in the case he presented.

Dr. Fordyce said that Ehrlich himself admitted that nerve recurrences were perhaps more frequent after the administration of salvarsan than after treatment with mercury. The explanation he gave was that salvarsan killed most of the spirochætæ, but that organisms which were located in nerves with poor blood supply were not reached by the drug and for this reason relapses of this kind were met with. A more intensive treatment in the early stages of the disease seemed to limit or prevent such recurrences. When in Paris last summer, the speaker had interviewed Dr. Emery in regard to this point and was told that since using several injections no recurrences had been met with, but only when one or two injections were given. Dr. Fordyce admitted that the ordinary pharmaceutical preparations of arsenic could produce a neuritis, but laboratory experiments made with salvarsan on animals failed to show that it had any special predilection for nerve tissue. The speaker added that he had given the drug between 600 and 700 times and had not noted any deleterious effect on any of the nerves of special sense.

Lupus Erythematosus with Peculiar Configuration. Presented by Dr. Trimble.

Dr. Trimble said that the patient presented an ordinary case of lupus erythematosus, but that she was exhibited on account of the peculiar configuration of the lesion, extending down from the mouth in the natural wrinkle on each side. She had other lesions also. The woman was about thirty years of age and the duration of the lesion was six years.

Dr. G. H. Fox said that there was no doubt about the diagnosis, but that the localization around the mouth was rather remarkable.

Dr. Whitehouse agreed with the diagnosis.

Dr. Morrow said that it was a unique case.

Dr. Trimble said that he had only presented the case on account of the peculiar curved lesion.

Purpura. Presented by Dr. Trimble.

Dr. Trimble said that a year ago he had shown a case with very small lesions all over the body, which he thought then was purpura, although of a very unusual type. There was some difference of opinion regarding it. At the last meeting Dr. Klotz had presented a case with small lesions which the speaker had thought was follicular purpura. The case now presented was a very similar one, with very small hæmorrhagic lesions around the follicles. They were fading out, but could still be distinctly seen. The patient also had same crusted lesions on the ankle. Whether or not they had any connection with the other lesions he could not say. The condition had existed for two or three months.

Dr. Fordyce said he had seen the patient when she first came to the clinic. She then had purpuric lesions on the lower extremities and large bullæ about the ankles, with considerable pain. He then believed that the process was similar to erythema nodosum, but that in this instance the lesions were more superficially situated.

Dr. Whitehouse said that the lesions appeared to be papules, hæmorrhagic, quite hard and inflammatory, and could not be easily accounted for by a keratosis. The woman had also erythematous plaques which were the size of a dime. It seemed to belong to the erythema group; perhaps part of it, the bullæ, was a secondary infection. He did not think it was a pure purpura punctata.

Dr. Klotz said that aside from the decidedly papular character of some of the lesions, their color differed very much from that usually observed in true purpura, which presented a darker, more bluish and livid appearance. It seemed to him that in the present case, as well as in that presented by himself at the October meeting, we had to do with an emigration of red blood cells, not with a rupture of a blood vessel and extravasation of blood itself. The presence of the red blood cells in the exudation would account for the persistence of the color on pressure.

Dr. Trimble said that he would not be surprised to find that it belonged to the erythema group. The same opinion had been expressed by some of the

members about a case which he had shown the previous winter. A great many things could be placed in the erythema group. He had used the term follicular or punctate purpura merely for convenience. The lesions could not be pressed out; they were certainly hæmorrhagic and the majority were around the follicles. He could not explain the lesions on the ankles, which were supposed to be bullous at first; he thought this was probably an independent condition. When he saw the case for the first time the woman was suffering so much pain in the legs that it seemed to be a case of peliosis rheumatica.

Tumor of the Abdomen. Presented by Dr. Kingsbury.

The patient was a woman about fifty years of age. She was not very well nourished, but she claimed that her general health was good and denied any recent loss of weight. About six months ago she first noticed a hard patch of skin about the size of a silver dollar on the right side of her abdomen. This gradually increased in size and when the woman was before the Society, there were several small nodules at the edge of the lesion. Dr. Kingsbury thought that the growth was carcinomatous, probably secondary to a tumor of the intestines or some organ in the pelvis.

Dr. Fordyce said that he thought it was a malignant condition, probably a sarcoma.

Dr. Holder thought it was a sarcoma.

Dr. Whitehouse said that he had seen and treated the case for some time and had considered it as one of morphœa, not having had the advantage of a biopsy. When he first saw it, the whole lesion had the character now presented by the left two-thirds; he had thought that the mercurial plaster which had been applied was possibly the cause of the secondary inflammatory condition at the right end of the lesion. It had not that character at first. He was still in doubt as to its true nature. The inflammatory condition at the right end now obscured the original condition. He confessed that it had had an uneven edge at first which morphœa did not have.

Acne Varioliformis. Presented by Dr. MacKee.

The patient was a married man, sixty-two years of age. He gave an indefinite history of having had syphilis thirty or forty years ago. He first came to Dr. Fordyce's clinic six years ago, at which time there were two or three papular and ulcerating lesions on the nose. There were, also, a few depressed scars, the remains of former lesions. During the six years that the patient had been under observation he had received anti-syphilitic treatment and various other local and internal remedies without any effect on the disease. The Wassermann test was negative. When presented to the Society, there were three lesions on the nose that represented the various stages of evolution. One consisted of a small nodule, which could be felt better than it could be seen. One was a papule and the third represented the stage of ulceration. There were numerous, white, depressed scars, the size of a split pea, over the nose

and inferior portion of the forehead. The patient had received two injections of stock staphylococcic vaccines and there was apparently some improvement. The interesting feature of the case was the unusual location of the lesions.

Dr. Fordyce said that the case was interesting on account of its localization on the nose. He had never before seen that localization for acne varioliformis, though there was no reason why it should not be there.

Tumor of the Lip. Presented by Dr. Kingsbury.

Dr. Kingsbury said that he presented this case for diagnosis and in order to get suggestions for treatment. It was probably an epithelioma, but judging from the appearance of the tongue and the mucous membrane, the man had certainly had syphilis. He had had strong "mixed treatment" for ten days, but showed little or no improvement. It was a question as to whether he should be treated with salvarsan or by operation. The man was thirty-eight years of age and had had the condition for only three months. The glands were enlarged under the chin. A Wassermann reaction was negative.

Dr. Morrow said that in his opinion the case was undoubtedly specific. He had not palpated it carefully, but one would hardly expect to find a cancerous lesion in a man of the age of the patient, although it was a possible occurrence. The case had the obvious indications of late syphilis in the mucous membrane of the mouth, which would suggest a lesion of the gummatous type.

Dr. G. H. Fox agreed with Dr. Morrow that the lesion appeared to be more like syphilis than an epithelioma. As to the age of the patient, however, although surgeons used to think that no one under forty ever had epithelioma, it was seen in many patients between twenty-five and forty. He thought that the age of the patient played no important part in the diagnosis. It was not so common between thirty and forty, as between forty and fifty, but it was not uncommon.

Dr. Fordyce agreed with Dr. Morrow and Dr. Fox that the lesion was an ulcerative gumma. He had seen epithelioma of the lip in a man of thirty-five. Fifteen per cent. of late syphilitic lesions gave negative Wassermann reactions. Much depended upon the technique of the Wassermann test and a negative result did not prove that the condition was not syphilis. The clinical manifestations must also be considered.

Dr. Trimble agreed with the diagnosis of syphilis. Judging from the great loss of tissue in the centre, the short duration and the white patches on the tongue, he thought surely it was a late luetic lesion. However, after these remarks, he wished to mention a case, seen about a year ago, in which the lesion was almost identical with this one, the patient a man about the same age, and the diagnosis of gumma was made by several dermatologists including himself, and the case later revealed itself as an epithelioma.

Dr. Johnstone suggested that it might be advisable to have a microscopic examination made.

Dr. Jackson said that clinically it certainly looked like a gumma of the lip.

Dr. Whitehouse agreed with the general diagnosis of gumma of the lip; the condition of the tongue and mucous membrane was distinctly syphilitic; the

position on the lip would account for the continuous persistence of the lesion. He would certainly give the patient the benefit of vigorous anti-syphilitic treatment, before operating in the belief that it was epithelioma.

Dr. Winfield thought it was a suitable case for salvarsan treatment.

Reports on Cases Previously Exhibited.

Salvarsan in Pregnancy. Reported by Dr. Trimble.

Dr. Trimble said that the pregnant woman who had been treated with salvarsan had suffered no ill-effects as a result of the injection. She had not yet been confined.

Dr. Jackson asked what would be the probable effect of the salvarsan treatment, on the unborn child, when given to the mother?

Dr. Winfield told of a case which had come under his observation, where a pregnant woman had had one injection of salvarsan and the child when born was perfectly healthy, with no sign of syphilis.

Dr. Morrow asked if Dr. Winfield would ascribe any effect on the unborn infant where the mother had had one injection of salvarsan? His own experience was that after the seventh month the child was very slightly, if at all, affected by any treatment given to the mother. A man might contract syphilis and his wife become infected at a late stage of pregnancy, after the seventh month, and the child would not be likely to suffer. Even after the sixth month, it was not likely to be infected.

Case for Diagnosis. Reported by Dr. Fordyce.

Dr. Fordyce said that the case he had presented at the October meeting—the child with follicular lesions on the trunk and scaly lesions on the legs,—had cleared up under indifferent applications, but later it came back in exactly the same condition.

Case for Diagnosis. Reported by Dr. Fordyce.

Dr. Fordyce reported that the woman he presented at the October meeting, with a lesion on the nose suggesting syphilis, was entirely well and there was no scarring. The microscopic sections would certainly indicate syphilis, and the absence of scarring would support that view. It was clinically a case of lupus erythematous,—but yielded to the application of iodine on the surface. That might give a useful hint as to the treatment of some resistant specific lesions of the skin.

Syphilis. Reported by Dr. Whitehouse.

Dr. Whitehouse reported on the case presented by him at the October meeting, which had been treated with salvarsan. The lesions were healed and he had now had four intravenous injections of salvarsan, the last two after his negative Wassermann had again become positive. The patient was still under observation.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Stated meeting, held April 4, 1911.

JEROME KINGSBURY, M. D., *Chairman.*

Dermatitis Medicamentosa. Presented by DR. KINGSBURY.

The patient was a woman, forty-five years of age. When before the Section, she presented a general eruption consisting of large, elevated, erythematous plaques. This was of about four days' duration. For nearly a week previous to its appearance she had, upon the advice of a lay friend, been taking fifteen drops of guaiacum three times a day.

Case for Diagnosis; Resembling Lichen Planus. Presented by DR. DAISY ORLEMAN ROBINSON.

G. T., colored female, twenty-three years of age; occupation housework. She entered Dr. Robinson's service at the Northwestern Dispensary one week ago. She stated that the eruption was noticed about three weeks ago, having appeared first on the arms, then on the legs, and gradually spread over the body; that she was normal in health until this time, and that the eruption was not preceded nor accompanied by any noticeable symptoms except a feeling of general slight indisposition. She gave no history of any previous skin disease, excepting that she had had in childhood an eruption which, from the numerous and rather deep scars situated over a considerable portion of the body—small to large pea-size, or larger depressions—was an ecthyma, or a severe suppurative folliculitis. When presented she had a mild ichthyosis in some places, of the serpentine form, but principally of the follicular type. The speaker said that she presented this case as one representing an unusual condition of the skin, with a diagnosis of a possible lichen planus comedo, in a subject having a condition of mild ichthyosis. The majority of the lesions seemed to have a follicular origin, or were specially related to the follicles, while a large number presented the usual appearances, quite similar to those seen in lichen planus, especially in the case of the smaller lesions. The eruption markedly corresponded in location and general character to a case described in the *Atlas for Rare Skin Diseases*, by Hans von Hebra and which he described under the title "Hyperkeratosis Striata Follicularis." Dr. Robinson thought that keratosis follicularis, of Brooke, or other forms of keratosis follicularis, also, follicular eczema, Darier's disease, acne corné and syphilis could be excluded. An acute folliculitis, restricting that term to an acute suppurative process, could

likewise be excluded. The speaker said that she would not enter into a full description of the lesions, which would be given in a publication of the case after a further study. There was an eczematoid dermatitis condition in the popliteal spaces and above, caused by either an irritating ointment or some infectious origin. No itching was present. The lesions were most marked on the anterior surfaces of the arms, especially over the elbows and on the sides of the thorax and abdomen. They were, however, more or less distributed over the entire body, from the neck to the elbows. The palms, soles and mucous membrane of the mouth were free of lesions. Dr. Robinson wished to draw attention to the objective characters of the smaller lesions, presenting, many of them, irregular shape, flat, shining surface, with the slightly brighter red periphery as compared to the central part of the lesion and the absence of any black spot or any apparent follicular orifice, in the centre of most of these lesions. There was also some tendency in places to grouping, or linear arrangement. The larger number of the lesions showed a black spot in the centre, with or without a little crust or plug-like formation, whether large or small. The remainder of the lesions, which ranged in size from a large pinhead to small pea, showed a red, acute, inflammatory-like character—this redness disappearing upon pressure—leaving a slightly yellowish infiltration. A peculiarity of these lesions, and which was also observed in Hebra's case, was that removal of this little central plug was followed by oozing of blood in the small funnel-shaped depression, without any special serous exudation. The arrangement in striæ over the elbow region, horizontally and transversely, could be readily seen. If there was a comedo form of lichen planus, deserving such a name and such a form had been described, this would seem to be an example, but further study would be required to determine this point. The case was really shown as one for diagnosis, for although it resembled lichen planus in some respects, the speaker was not familiar with a publication of an exactly similar one and hesitated to make a positive diagnosis before further study of the clinical course and the histological character of the lesions. A biopsy had been made and a full report the speaker said would be published later.

Case for Diagnosis. Presented by Dr. MacKee.

The patient was a male infant, two and one-half years old, who had been under observation at Dr. Fordyce's clinic for eight months. Both the mother and father were being treated for syphilis at the clinic. The child, in the first few months of life, suffered from "snuffles" and a brother one year of age, had been afflicted with the same condition. One year ago a painless swelling was noticed over the fifth metatarsal bone. This soon ulcerated and produced a sinus. Six months ago a similar condition developed just above the left elbow. This sinus was freely

incised and the bone curetted without benefit. Under anti-syphilitic treatment the child improved in general health, the "snuffles" disappeared, but there was no material change in the bone lesions. The Wassermann test, made by Dr. Mandel, was positive and a very marked reaction was obtained with the Moro cutaneous tuberculin test. Several radiographs had been taken both by the speaker and by Dr. Lewald. The plates showed that there were several areas of necrosis at the lower end of the humerus near the epiphysis. There was a very slight thickening of the periosteum and the membrane was lifted from the bone. The metatarsal bone of the small toe showed a complete lack of periostitis. The shaft of the bone was dense and the pulp canal partially destroyed. It was possible from a radiographic point of view to exclude syphilis, and the diagnosis rested between tuberculosis and a pyogenic infection or both. The fact that the sinuses had ceased to discharge under the administration of tuberculin and that the recent radiographs had demonstrated that there was an actual improvement in the condition of the bones, would make the speaker regard the case as one of tuberculous osteitis occurring in a syphilitic infant.

Lupus Erythematosus. Presented by Dr. Kingsbury.

The patient was presented before the New York Dermatological Society in May, 1911 (*Jour. Cutan. Dis.*, 1911, xxix, No. 8, p. 603).

Dr. MacKee said that the lesions appeared to be very superficial and resembled the type of the disease that showed a tendency to spontaneous involution. He would suggest that in this case some of the older remedies be first employed, leaving the solid carbon dioxide as a last resort. In our enthusiasm over the excellent results obtained by the use of the CO_2 snow, we were overlooking the fact that some of the cases did very well under the internal administration of quinine, iodide, phosphorus, etc., and local remedies varying from astringents to stimulants and irritants.

Papulo-Vesicular Eruption Following the Injection of Gonococcic Vaccine. Presented by Dr. Kingsbury.

The patient was an architect, forty-two years of age. He was of sedentary habits but was strong, well-developed and in good general health. He had several peculiar and rather well-marked dietetic idiosyncrasies. About ten years ago a rash developed after his taking a mixture for acute gonorrhœa. The recent urological history was not very clear, but the condition was designated by the patient as a "mild gleet." The results from the usual treatment were not very satisfactory and at the patient's solicitation his physician used a gonococcic vaccine. About a dozen injections were given and the results were so encouraging to the patient that several weeks later, while abroad, he used the vaccine himself. Only three injections were made, but the intervals were shorter and the dose larger than those previously given. About a week after the

last injection a group of firm papules appeared on the right shoulder and at the apex of the lesions small vesicles developed, followed by an inflammatory areola. Soon after, similar groups developed on the back, abdomen, and buttocks with scattered lesions on the extremities. The eruption was quite itchy, but except for some lesions on the neck that became infected, it did not cause much inconvenience. It persisted, however, for over a month.

Tubercular Syphilide. Presented by Dr. Kingsbury.

The patient was a saleswoman, twenty-eight years of age. About one year ago she had had a small group of tubercular lesions on the left angle of the mouth and on the lower lip. These disappeared under "mixed treatment," leaving superficial cicatrices. About six weeks ago lesions showing a circinate arrangement appeared at the right angle of the mouth. Two recent Wassermann reactions were negative, though the eruption was sufficiently characteristic to warrant a positive diagnosis.

MANHATTAN DERMATOLOGICAL SOCIETY.

May, 1911.

Albert C. Geyser, M. D., *President.*

Dermatitis Venenata. Presented by Dr. Kingsbury.

The patient was an English woman, about forty years of age. She was employed as a housekeeper in private families. Her hair had recently become quite gray and before accepting a new position she used a certain extensively advertised hair dye. The eruption did not appear until nearly two days after the application. Small vesicles first appeared on the forehead and under the eyes, but soon the cheeks, ears and neck were affected. The ears became considerably swollen and the eyelids so œdematous that the woman could scarcely see. There was a slight papular eruption on the scalp and forearms.

Dr. Parounagian agreed that the condition was due to an irritant application, probably a hair dye. The reason the scalp was not irritated was because this part of the body was more resistant to strong applications. He thought this condition was usually brought about by the solution being smeared on the pillow and then to the face.

Papulo-Squamous Syphilide. Presented by Dr. Kingsbury.

The patient was a healthy appearing man, forty years of age. He contracted syphilis about four years ago and had had lesions on the left

forearm, right palm and both knees for over a year. The case was shown particularly on account of the lesions on the knees, the probable result of trauma incident to his occupation, that of a layer of parquet floors. The patches were each about six inches in diameter; they had elevated borders, were deeply pigmented, and contained numerous small cicatrices.

Sarcoma Hæmorrhagicum Multiplex. Presented by Dr. Gottheil.

Solomon P., thirty-six years of age, noticed a spot on the back of his left hand some fifteen months ago; it was slightly elevated and purplish in color and increased very slowly in size. No subjective sensations were present. Some four or five months ago he noticed a number of other similar spots on the backs of both hands, on the dorsa of the feet and on his lower legs. There was also some swelling of both lower limbs. All the lesions seemed to be growing slowly, though some had disappeared, leaving small depressions behind. When presented to the Society, there was a moderately hard œdema of both lower limbs; and the backs of the hands, the fingers, the feet, toes and lower parts of both legs showed a number of characteristic, varying-sized, dark-purple elevations, moderately hard and not sensitive. On the soles of the feet were two groups of more deeply seated and but slightly colored nodules, which the patient said had appeared quite recently. Palpation revealed at various places in the skin and subcutis of the lower extremities, small deep-seated and colorless nodules. The presence of the deep-seated, colorless tumors, together with the rather rapid growth of the localized groups of tumors on the soles, led the speaker to believe that the patient was suffering from a mixed type of the disease; sarcomatosis of the Kaposi hæmorrhagic type, together with the commoner form. Dr. Gottheil showed a similar case to the Society two years ago, which had since gone on to amputation of one foot and was in bad shape now. The prognosis in these mixed cases was not good.

Dr. Wise asked the members present if they ever found an American-born patient suffering from this disease? The cases which he had seen were all of foreign birth.

Lichen Planus in a Syphilitic. Presented by Dr. Bleiman.

This case was of some interest, due to the fact that several diagnoses were made, all of them, however, with too much regard to the history of syphilis which this patient gave; and it tended to demonstrate the error the general practitioner readily fell into by considering every dermic lesion in a leutic as necessarily a syphilitic one. The history was as follows: The patient was a male, forty-three years old, who contracted syphilis eighteen years ago. During a period of four months he had fifty inunctions and in this interval all the secondaries disappeared.

Up to three years ago he received no treatment of any kind and showed no leutic manifestations. When he first came under observation, three years ago, the only lesion he presented was a leucoplakia of the mouth. He received injections of the salicylate of mercury and disappeared from observation. Six weeks ago, the patient again presented himself at the dispensary, with some mouth lesions and in addition, a discrete papular eruption on the body and limbs. He then stated that during the past three years he received ninety injections of mercury and during this treatment the present eruption appeared, being first noticeable four months ago. The lesions gradually increased in number and in extent.

Atrophoderma. Presented by Dr. Parounagian.

The patient was a boy of fifteen, born in Russia, who had resided in the United States for six years. He first consulted the speaker one week ago for an attack of zoster, at which time the atrophic lesions were noted. It was impossible to obtain a history of the latter condition because the lesions caused no subjective symptoms and the patient was not aware of their presence. The lesions were mostly confined to the right intrascapular region, although a few were noted on the back of the neck, the upper portion of the chest and the right arm. They consisted of circular and oval, pinpoint to five-cent-piece-sized plaques of atrophy. They were perfectly white and from a distance resembled scars. Lesions of apparently recent development possessed the appearance of leucoderma. Some of the plaques were well marked, while others were so faint as to be hardly perceptible.

Lupus Erythematosus and Alopecia Areata. Presented by Dr. Parounagian.

The patient, Mr. E. S., was forty-three years of age and was born in Hungary. His lupus of the face was of about eight years' duration. He was being treated with the solid carbon dioxide. Three months ago he developed three patches of alopecia areata. At first these were thought to be lesions of lupus erythematosus, but a careful examination convinced the speaker that they were lesions of alopecia areata. These patches were white, free from scales and there was no itching. The patient stated that similar lesions had appeared several years ago and that they had disappeared spontaneously.

Dr. Wise said that the condition was one of lupus erythematosus of the scalp. The patches were inflamed and their outlines were irregular and indistinct.

Hirsuties. Presented by Dr. Geyser.

This patient was a girl, whom Dr. Abrahams had sent to Dr. Geyser for relief of her condition. She had at that time a large number of hairs on her chin. The Doctor said that in the treatment of a case like

this, there should be no atrophy of the skin whatever, when the patient had been treated with the X-ray. He said that after numerous mild applications of the X-ray, the chin became entirely free from hair, which was the condition when presented to the Society. He said that in cases of hirsuties the heavier hairs would readily fall out and not return, but that finer hairs often returned, necessitating another application of the ray.

Dr. Gottheil said that radiotherapeutists now advised against the use of the X-ray for the removal of superfluous hair; they had been taught by experience that its dangers far outweighed its possible advantages. With this attitude he had thoroughly sympathised and had advised electric epilation, tedious as it was, as the only remedy. His views, however, had been modified by several cases of Dr. Geyser's, which he had recently had opportunities of seeing and by which he had been much impressed. These included some private cases in which the results were objectively perfect and in which the patients expressed themselves as being absolutely satisfied. One of them had an abundant growth of light, lanuge-like hair, with which absolutely nothing could have been done with the needle. There was no atrophy or other trouble in these cases, the skin was smooth, normal, and hairless. The Cornell contact tube was employed, with which a radiodermatitis, if possible, was extremely unlikely to occur; he used one of these tubes almost daily, and had never had any trouble. Whether this was due, as Dr. Geyser claimed, to the contact method and absence of an air dielectric, or as others stated, to the small amount of the ray developed by the tube, he could not say; but he was determined to employ the method in the next case that appeared.

Dr. Geyser said that there were two classes to be considered, the blonde and the brunette. These two, he stated, were again subdivided into two classes. He said it was very much easier to remove a heavy, dark growth of the brunette type than it was to remove the growth of a thin blonde hair. He stated that in some of these cases, after ten treatments, there would be a complete removal of the heavy hairs, while in cases of finer texture one would notice nothing. In certain blondes, the speaker said, after the second application of the ray, the skin would assume a pinkish hue, which condition usually occurred when the tube was overheated and when the static machine was employed. Dr. Geyser said that a low vacuum should be used.

Tuberculous Glands Disappearing After the Use of the X-Ray. Presented by Dr. Geyser.

The patient was a young girl, who had had tuberculous glands and who had undergone three operations for this condition. Twenty or thirty glands had been taken out, but they had returned. When Dr. Geyser first saw her she had about the same number of glands as at first. This was one and one-half years before her presentation to the Society. The speaker said that one year of X-ray treatment had practically removed the glands.

Demonstration of the Blastomyces. Presented by Dr. Gottheil.

The specimen was from a private patient who was suffering from a chronic, localized, inflammatory and indurated focus in one leg, in whom

no diagnosis had been made for a long time by the practitioner who was treating her. The condition resembled a tuberculosis verrucosa cutis more than anything else; but the discovery of a number of minute abscesses around the purple mass led him to suspect either blastomycosis or sporotrichosis. The microscope revealed in the pus and serum obtained by suction, peculiar rounded bodies which, though they did not present the double contour of the typical blastomyces, could be nothing else but examples of that organism.

REVIEW OF DERMATOLOGY AND SYPHILIS.

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ARCHIV FÜR DERMATOLOGIE SYPHILIS.

(1911, cx, No. 3).

Abstracted by UDO J. WILE, M.D.

A Case of Sporotrichosis Septicæmia. MENAHEM HODARA and FUAD BEY, p. 387.

The case herein reported occurred in a colleague of the authors' and had lasted a year and a half. The onset was rather acute, with fever which became continuous and very profuse sweating. The eruption dating one and one-quarter years, was generalized and occurred in the form of acneiform papules and nodules, many of which were vesico-pustular, others necrotic and covered with a crust which on healing, left small cicatrices and persistent pigmentation. A culture from one of the lesions, revealed a pure strain of the sporothrix and a sero-agglutination of the patient's blood serum for sporotrichosis, after the method of Vidal and Abrami, gave a strong positive result. An unfortunate intolerance to iodides on the part of the patient, retarded his cure somewhat.

Tattooing and Syphilis. W. HOLLAND, p. 393.

That the red areas of tattooing are immune to the various syphilitic eruptions, owing probably to the mercurial content of the cinnabar used, was brought out by Dohi (see review in THE JOURNAL for March, 1910). In corroboration of this localized immunity, the author describes three cases in which various eruptive

syphilides localized themselves in the blue areas of tattoo marks, whereas the red areas remained entirely free; furthermore, lesions occurring in a blue area, but which was immediately adjacent to a red area, were noticed to have a sharp line of demarcation corresponding to the junction of the red and blue areas. The author believes that the immunity of the red tattoo is dependent to a certain extent on the age of the mark. As long as there is slight absorption of mercury from the red tattoo so long will the immunity last; when, however, this has ceased, then the red and blue areas react in the same way to the disease.

Concerning Pemphigus. Max Joseph, p. 399.

In a very interesting fashion, Joseph discusses the symptom complex of pemphigus vulgaris. A few personally observed cases are given in detail to illustrate the difficulty in diagnosis at the onset of the disease. The number of cases following closely upon the extraction of carious teeth leads Joseph to believe that in such cases bacteria are set free in the blood stream and, taking on an increased virulence, initiate the onset. An interesting case related by him occurred in a young pregnant woman, in whom it was thought that abortion might relieve the symptoms; the contrary, however, was found to be the case and the woman succumbed shortly after the operation. Several cases of true pemphigus have been observed by Joseph in children and he believes this is more frequent than is commonly believed. From the standpoint of therapy, Joseph has found nothing to be of use for all cases. In his hands, the external application of aqua calcis and linseed oil in equal parts, together with daily injections of arsenic, have been of great benefit in a few cases. He believes salvarsan may be of benefit, as reported by Sutton and by Wolff, but he has as yet not had the opportunity to try this remedy.

A Case of Severe Mercury Poisoning. Fritz Juliusberg, p. 409.

Most of the severe cases of mercury poisoning occur after the injection, particularly of the insoluble salts used in the treatment of syphilis. The case herein described is of particular interest in that poisoning occurred after inunction with blue ointment. The patient, a woman of forty-four years, having syphilitic ulcers on the thigh, received seven inunctions of blue ointment. Following this, she had a rise of temperature lasting a few days, without any other symptom; no stomatitis, albuminuria nor intestinal disturbance. After the subsidence of the fever, the inunctions were resumed, and nothing further was noticed until after the twenty-seventh application when acute symptoms of intoxication leading to death in fifteen days set in. The intoxication showed itself in a scarlatiniform rash, marked albuminuria and cylindruria and intestinal irritation. The mucous membrane of the mouth, however, remained absolutely normal.

Dermatitis Nodularis Necrotica. Klingmüller, p. 419.

Under the above title, Klingmüller describes a very rare dermatosis first described and named by Werther (*Ikon. Dermat.*, No. 42, Plate 5). Briefly described, the case presented the following features: In a twenty-year-old girl, there occurred, from the tenth to the eighteenth year, recurring attacks of an eruption which occupied the body, but having a special predilection for the extensor surfaces of the extremities, accompanied by mild itching. Three types of primary efflorescences could be differentiated. (1). Large numbers of hempseed-sized papules, superficial, but definitely infiltrated, of a bluish-red color and surrounded by an inflammatory zone. These lesions rapidly ulcerated and soon became encrusted, or small stipple-like hæmorrhages appeared on the summit of the lesions; this hæmorrhagic exudate persisted for some weeks and then, in both instances, the lesions involuted, leaving a permanent pigment spot. Coalescence of such lesions led to the formation of hæmorrhagic plaques, with blood-

filled sinuses in the centres. Such lesions, by ulceration and subsequent healing, gave rise to serpiginous, irregularly pigmented scars. (2). In addition, such lesions as these just described were found developing without a papulo-pustular initial stage and (3), smaller and larger erythematous spots, at times evanescent, at other times initiating the other two types of lesions. The eruption was accompanied by slight rise of temperature and general malaise. The histological specimens from the several types of lesions showed the following single picture: Perivascular infiltration, particularly in the subpapillary layer, of polymorphonuclear leucocytes; infiltration and miliary abscesses of the epidermis and hæmorrhages into the cutis and into the papillæ. Cultures of the lesions and of the blood remained sterile. The tubercle bacilli were not found and the tuberculin test was negative. The author calls attention to the evident similarity of his case to certain of the hæmorrhagic tuberculides described in the literature, but he regards his case as distinct from them. He considers it rather as a pure inflammatory dermatosis of hæmatogenous origin.

On Heredity in Syphilis. Rudolph Krefting, p. 439.

This paper embodies the views on the inheritance of syphilis as changed by the Wassermann reaction. According to the author's opinion, spermatic or paternal inheritance of syphilis cannot exist; in all cases the fœtus is always infected by the mother. After reviewing the results of the Wassermann reaction on mothers of syphilitic infants published in the literature, the author adds the results in twenty cases of his own in which in no instance was there any history of a previous infection. In all the reaction was positive. The writer concludes: That the sole method of transmission of the disease is infection of the fœtus while in utero. Germinative transmission does not exist. The designation "hereditary syphilis" should be replaced by the word "congenital."

The Action of Salvarsan on Syphilitic Infiltrations. F. Krzysztalowicz, p. 447.

This article was also published in the *Monatshefte für praktische Dermatologie* for Dec. 15, 1911. The abstract will be found on another page of this issue of The Journal.

The Histology of Skin Tuberculosis. Joseph Kyrle, p. 453.

This lengthy contribution to the study of the anatomy of cutaneous tuberculosis is well worth reading for those interested in the changes in the conception of tuberculosis of the skin which have arisen in the past few years. It should be read in the original, however, as the article does not admit of a review in the space allotted to abstracts.

Lepra Statistics. H. P. Lie, p. 473.

This statistical review is based upon a study of over one thousand cases of the disease. Although the writer pays particular attention to the infectiousness of leprosy, no mention is made of Duval's work. The recent experiments in animal inoculation and cultivation are totally ignored. The paper is simply a compilation of the statistics of the disease up to five years ago.

Lymphogranuloma Papulosum Disseminatum. G. Nobl, p. 487.

This article includes a discussion and case report of the very interesting pseudo-leukæmic lymph-gland tumors with metastases in the skin, as described by Sternberg and Paltauf. The case of the writer's occurred in a young man with multiple lymph-gland tumors of the neck and axillæ. The blood picture, not much altered, was that of a pseudo-leukæmia. The lymph-gland growth was so rapid that extirpation of the tumor masses was necessitated. Soon after, a

diffuse, red swelling of the skin of the left thorax was noted. This subsided under arsenical medication and was succeeded by the appearance of numerous, purplish, non-ulcerating tumors resembling leprous nodules, or large syphilitic papules. Resolution under radiotherapy occurred with a residue of brownish pigmentation. The author undertook extensive histological studies of the tumors of lymph-glands and skin tumors, the results of which briefly stated, showed the neoplasm to be of a granulomatous nature. The entire course of the disease was attended by periods of fever, particularly at night.

A Case of Pemphigus Vegetans Treated on General Lines and by Means of Vaccines. George Pernet, p. 509.

Pernet reports a case apparently of very severe pemphigus vegetans. Cultures taken from the skin and from the circulating blood revealing the staphylococcus and a diplococcus, the author recommended the treatment of the case by vaccines of these two organisms, together with the usual supportive treatment with quinine and arsenic. Despite this treatment, however, the patient succumbed about five months after the onset of the disease. From the description, the case seems to be of the usual type of pemphigus vegetans.

Monatshefte für praktische Dermatologie.

(Dec. 1, 1911, xliii, No. 11).

Abstracted by Fred Wise, M.D.

The Probable Relationship Between Dermatitis Infectiosa Eczematoides, Dermatitis Repens and Acrodermatitis Perstans. Richard L. Sutton, p. 583.

In 1902, Engman described a series of 35 cases of "dermatitis infectiosa eczematoides," and pointed out that this disease is an entity and should not be classed with ordinary eczemas (*Amer. Med.*, iv, p. 769). Bacteriologically, the primary or early lesions of this disease contained the staphylococcus aureus or albus in pure culture; the same organisms were obtained from the surface of the lesions and from the crusts. The disease was always preceded by either trauma, infection, or some lesion associated with pus. Inoculation of the healthy skin with the organisms obtained from this affection, produced lesions similar to those from which the cultures were taken, in patients vaccinated with material from their own lesions. Inoculations from one patient to another, however, showed little or no result.

Sutton made bacteriological examinations of dermatitis repens, acrodermatitis perstans and dermatitis infectiosa eczematoides and came to the conclusion that the ætiological factors in the three diseases were identical, having almost invariably found the staphylococcus aureus and albus in pure culture, in each of them. Histologically and bacteriologically he considers Hallopeau's acrodermatitis perstans to be identical in every respect with Crocker's dermatitis repens. Infectious eczematoid dermatitis differs both clinically and pathologically from the pustular-eczema group and should not be confounded with it. Its origin is probably due either to the staphylococcus aureus or albus. Histologically, the disease differs from dermatitis repens and acrodermatitis perstans, chiefly in the localization of the inflammatory processes in the skin. In infectious dermatitis the pathological changes obtain almost entirely in that portion of the stratum corneum which lies above the stratum lucidum; whereas in the other disease (Hallopeau's and Crocker's), the infection is deeper, for it is the prickle-cell layer which bears the brunt of the attack. This fact tends to explain the diverse

effects of therapeutic agents in the two classes of dermatoses. In the infectious eczematoid dermatitis, a mild antiparasitic application produces rapidly favorable results; whereas dermatitis repens frequently requires months of painstaking treatment to bring about a final cure. The author suggests vaccine therapy for this class of cases.

The Influence of Salvarsan Injections on "Lues Mixta." VÖRNER, p. 591.

By the name "lues mixta," Vörner designates those patients in whom syphilitic lesions are coexistent with lesions or diseases produced by, or associated with other microörganisms, in the same part of the body. He bases his observations on four cases:

(1). A student with a severe infected wound of the scalp, received 0.4 gm. of salvarsan for his roseola. A few hours later the wound began to pain him considerably, the scalp became reddened and swollen, the secretion increased in amount, the temperature rose to 38.5° C. Cold compresses applied for two days caused a prompt recession of the fever and inflammation.

(2). A patient infected a year ago was treated with inunctions; defluvium and angina appeared at the end of the year, which were not benefited by a prolonged course of "mixed treatment." Salvarsan, 0.3 gm., was followed by a clearing up of the symptoms. Three months later, angina, mucous plaques and a severe stomatitis supervened. After a second injection of salvarsan, he had intense pain and a burning sensation of the mucous membrane of the mouth, with œdema and protrusion of the tongue, preventing closure of the jaws, and accompanied by a flow of foul-smelling saliva. After 24 hours there was a recession of all the symptoms. In these cases, the author assumes that the salvarsan caused a hyperæmia of the affected parts, with a renewed proliferation of the pus organisms, producing the onset of acute symptoms.

(3). A man infected ten years ago had had a syphilitic orchitis, gummata of the legs and, two years ago, a gonorrhœal epididymitis. A Wassermann being positive, salvarsan was given, which was followed soon after, by a severe epididymo-orchitis. Gonococci were found in the serum taken from the affected testicle. Both the luetic and gonorrhœal infections had attacked the same testicle, but only after the second injection of salvarsan did the acute gonorrhœal phenomena manifest themselves.

(4). A case of tabes, infected 20 years ago, was treated with the usual remedies. Ten years ago, gastric and intestinal crises appeared, which were followed by the classical symptoms of tabes. The internal organs appeared to be normal. He received 0.6 gm. of salvarsan, which was followed by a chill, the pulse and temperature remaining nearly normal. After the cessation of the chill, the temperature rose rapidly to 38.9°C; the pulse was 120 and strong. Throughout the following week he had irregular attacks of headache, vomiting and insomnia and marked loss of strength. In the second week he complained of a feeling of fullness in the abdomen; in the fourth week severe gastro-intestinal symptoms with diarrhœa, made their appearance; the liver and spleen were enlarged; after a prolonged period of coma the patient died. Autopsy revealed miliary tuberculosis of all the abdominal organs, the mediastinal lymph-glands and the pleura. The author ascribes the early disturbances to the toxic action of the injection, the later symptoms to the tuberculosis. In this case, also, Vörner thinks that the salvarsan produced an intense hyperæmia of the affected organs, with a "lighting up" of the latent tubercle bacilli.

The author does not believe that these phenomena were caused either by the toxic action of the arsenic or by the errors in the technique of combining or administering the solution of salvarsan. He believes that it is of the greatest

importance to examine all the patients for evidences of non-syphilitic lesions, before giving them salvarsan and to rid them of these lesions as far as it is possible. He assumes that the salvarsan creates a susceptibility to bacterio-toxines in the system.

(*Ibidem.* Dec. 15, 1911, xliii, No. 12).

The Histology of Syphilitic Infiltrates After the Use of Salvarsan. Franz Krzysztalowicz, p. 633.

In considering the action of salvarsan, the author lays stress upon the importance of ascertaining whether this drug is parasitotrophic and acts as a destroyer of microbes, or whether we are dealing with a remedy which affects the entire organism, strengthening it to such an extent that it either destroys the micro-organisms or prevents their multiplication in the system. Another vital question is the manner in which the remedy brings about the resolution and disappearance of syphilitic infiltrates. The writer believes with Fritz Lesser, that the administration of salvarsan causes a decided increase in the vitality of the tissues, producing a marked organotrophic effect. He made histological examinations of eight specimens of syphilitic lesions, derived from the same number of patients who had received salvarsan. The biopsies were made as soon as the syphilitic lesions began to show clinical improvement.

Examination of an initial lesion showed marked changes in the infiltration, especially manifested by an overwhelmingly large number of atypical plasma cells, while the typical (normal) plasma cells were few and far between. These atypical plasma cells were characterized by their resemblance to connective tissue cells, on account of their spongy cytoplasm and meagre granoplasm. The section showed, also masses of atrophic plasma cells, forming large areas of infiltrate.

The histological examination of a syphilitic papule showed a large aggregation of fibroblasts, together with the nuclei of plasma cells and broken down cytoplasm; here and there cells were seen containing slightly altered plasma-cell nuclei and spongy cytoplasm. Another papule, pigmented and well on its way to resolution, showed advanced breaking down of the tissues, not only in respect to the cytoplasm, but also in the chromatin of the plasma cells, wherein the latter had almost entirely disappeared. The picture in this case showed less resemblance to a syphilitic section and appeared more like that of a granuloma fungoides. Another papule, excised from the scrotum five days after administration of salvarsan, showed but little change from the normal, with the exception of œdema. In another specimen, the infiltration around the blood vessels was slight; few plasma cells, numerous fibroblasts, and plasma-cell nuclei were to be seen in the section. Here and there, chromatin bodies and broken-down cells were observed in the lumina of some of the blood vessels; and between the infiltrating cells, large numbers of mast-cells were present. Sections taken from Cases 7 and 8 showed variously shaped masses of cytoplasm, between the plasma cells, together with broken-down nuclei; in these specimens, the broken-down elements were comparatively few, while the œdema of the tissues was more marked.

As these tissues were examined between two and eight days after salvarsan had been administered, it is apparent that only a short time elapses before changes in the infiltrate manifest themselves. These changes are especially referable to the plasma cells, in which the œdema takes place, while other plasma cells show a marked atrophic type; some are seen in the broken-down stage, characterized by their weak stain, the lack of chromatin in their nuclei and in the variety of their shape and size; other evidences of these plasma-cell changes are seen in the detritus of the chromatin and in the remains of weakly-stained granoplasm

and spongioplasm. The fibroblasts are comparatively more numerous in the secondary, than in the primary lesions and are especially noticeable in later skin lesions; the hypertrophy of the connective tissue cells is much more marked in untreated lesions of longer duration.

The author ascribes to the action of salvarsan the various phenomena taking place in the infiltrate—namely, in its chief constituent—the plasma cells, as shown by the manifestations of œdema, atrophy, and breaking down of these cells. It is possible that the salvarsan has a selective action upon the infiltrates produced by the spirochætæ, but it must not be concluded that the drug has a more marked effect on the infiltrate itself, than it has upon the parasites. If the drug were purely parasitotrophic, the changes described in the infiltrates would take place more rapidly and more uniformly than one is warranted to infer from the examination of these sections. The author inclines to the belief that the changes in the infiltrate occur merely as a sequel to the marked initial œdema of the tissues.

A Remarkable Case of Tyloma of the Soles of the Feet. KEYENBURG, p. 644.

The author gives a detailed account of a hitherto undescribed case of tylositas of the soles of the feet in an adult male. The patient, a blacksmith, had been unable to carry on his vocation on account of the severe pain attending any attempt at walking or standing. The soles of the feet were greatly thickened, yellowish in color and affected with marked hyperidrosis. Over a year was spent in a hospital, during which time numerous methods, including X-rays, employed in an attempt to cure the disease, proved unavailing. In considering the differential diagnosis, the author points out the differences between the clinical aspects of his case and the ordinary forms of palmar and plantar keratoderma. His case differs from hereditary keratoma in that the latter begins in infancy or early childhood, whereas his patient's trouble began in adult life; keratoma hereditaria is associated with fissures and rhagades and is usually painless, while this man's feet were always painful and never showed signs of fissures.

In Besnier's "erythematous symmetrical keratoderma of the palms and soles," the affection is most marked on the palmar aspect of the fingers and the thickening of the epidermis is not diffuse, as in this case, but appears in islets and aggregations of hyperkeratosis. In Besnier's cases, also, there is always present a zone of reddened skin surrounding the thickened portion, but this is absent in the author's case. Other differential comparisons are made with arsenical and gonorrhœal keratoderma and with lichen ruber planus. The patient had never taken arsenic.

The histological picture showed meagre round-cell infiltration of the pars subpapillaris, a widening of the prickle-cell layer, great thickening of the horny layer and hypertrophy of the sweat glands.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Jan. 6, 1912, xliv, No. 1).

Abstracted by FRED WISE, M.D.

Contribution to the Chemistry of the Skin: The Distribution of Oxygen and Oxygen-Ferments in the Skin. P. G. UNNA and L. GOLODETZ, p. 2.

Through the medium of certain easily reducible substances, the reduction of which shows certain color-reactions, the authors have been able to determine, microscopically, the reducing properties of the histological elements of the skin.

The reagents employed are solutions of potassium permanganate, a mixture of iron chloride and ferricyanide of potassium and finally, a solution of tetranitrochrysophanic acid in chloroform. The tissue elements take up these solutions and are stained in characteristic reduction-colors, *i. e.,* brown, blue and red, which are essentially protoplasm stains. Practically all cell-bodies and connective-tissue cells, particularly the prickle cells, show distinct color-reactions; but the reaction ceases at the edge of the collagenous and nuclear substances, thus showing that these do not reduce. This is a marked departure in histology; hitherto the subject was broadly discussed as plasma-staining, in contradistinction to nuclear-staining. This distinction was based upon the strongly acidified albumins and the weaker acids, as in protoplasm and collagen. The reactions thus obtained were unsatisfactory, due to lack of sharpness in contrast. This is overcome, in later researches, in plasma-coloring which is based on the reducible and non-reducible tissues. In addition to the protoplasm of all cells, certain tissues, such as smooth muscle, nerve tissues and the horny tissues of the hair and nails react with equal sharpness. Of the intercellular substances, elastin is weakly reducible, while collagen and cartilage are non-reducible.

The authors, after painstaking experimentation, found that while the protoplasm takes the stain, the nucleus itself is not only unaffected, but actually oxidizes. They found, also, that what one may call depots of oxygen exist in the leucocyte granulations and in the granoplasm of the plasma cells. These new explanations of the oxygen depots of the skin give rise to the question how and why this conservation of oxygen in certain tissue cells is brought about. The existence of an oxidation-ferment in the nucleus has already been demonstrated; the character of the ferment of the neutrophile granules has been explained by Winkler and others. It remains necessary, therefore, to examine the cutaneous tissues with reagents for oxidation-ferments and especially to observe whether or not the ferment-depots of the skin are in the same class with the oxidation depots.

It is, then, mainly a question of the two oxidation-ferments which have thus far been observed in living organisms; oxidase, and peroxidase. The peroxidase separates water through the action of the liberated oxygen. The oxidase, on the other hand, does not require a peroxide for its efficiency, but causes direct molecular activity and oxidation in such substances, which would only slowly, or not at all, be affected by the oxygen in the air. This fermentative character is common to all these substances; oxidase, peroxidase, katalase, etc. Equally they operate in small quantities and in common they are destroyed by boiling. The presence of peroxidase was determined in the following manner: sections of skin and organs of a freshly-killed rat were frozen with carbon dioxide and slides prepared. On addition to these sections of a drop of a benzidin plus hydrogen dioxide solution, oxygen was generated with effervescence. The bubbles being removed after a few moments, a blue coloration became visible, which stained nuclei, mast-cells and the cartilage cells proving the presence of peroxidase. To demonstrate the presence of oxidase the authors employed the benzidin solution alone.

(*To be continued*).

Leucoderma Psoriaticum of the Hairy Scalp. J. H. Rille, p. 10.

The first report of a patient with this condition was published by the author in 1892, since when other observers have reported cases. Between 1903 and 1910, the author saw 20 cases of leucoderma psoriaticum in 524 psoriatics. The depigmented patches in these cases affected various portions of the cutaneous surface. Heretofore, leucoderma psoriaticum of the scalp has not been described.

The patient whose case is here described was a six-year-old child, having generalized psoriasis. The child had a preëxisting chloasma solare of the scalp and forehead, which showed more prominently after removal of the scales with white-precipitate ointment (no chrysarobin or pyrogallol was used). Upon removal of the psoriatic scales, a number of well-defined, typical leucodermic patches were seen on the scalp, forehead and temples. Two peculiar features of this case were the occurrence of the leucodermic patches within the chloasma and the rapidity—two months—with which the scalp regained its normal pigmentation. Compared with the defluvium which accompanies luetic leucoderma of the scalp, the loss of hair in psoriasis is much less marked.

Two Cases of Oriental Boil. M. Hodara and Fuad Bey, p. 16.

The authors describe two cases of "clou de Biskra" occurring in Cäsarea, in Anatolia. In the first case, a man of twenty, a lesion of eleven months' duration, was covered by a black crust, underneath which was found a sero-sanguinous fluid, but no pus. The microscopical examination showed serum, a little fibrin, a few blood cells, but no pus cells. The preparations all contained a diplococcus in pure culture. Cultures on agar, gelatine, etc., showed the Staphylococcus albus and aureus and occasionally, streptococcus. Inoculations into a guinea pig and into a man proved negative. The Heleosoma tropicum of Wright was found neither in the discharge nor in the sections. This trypanosome was found by Herxheimer and Bornemann in 1904, in a case of Aleppo boil.

Histologically, the epidermis was thickened and hypertrophied, with hyperkeratosis of the horny layer, and here and there comedo-like bodies; the prickle-cell layer was hypertrophied and contained an excessive number of cell-layers. The papillary layer was irregularly hypertrophied and with its mitotic figures, resembled epithelioma. The protoplasm and nuclei of the prickle-cell layer were thickened by a parenchymatous and intercellular œdema and the intercellular spaces were dilated. The greater portion of the prickle-cell layer showed a marked parakeratosis. Here and there, the entire epidermis was raised from the cutis, forming the erosions. In the scales were seen modified cells undergoing hyaline degeneration. The cutis showed a dense infiltration of plasma cells, extending down to the subcutis, with numerous small and large polynuclear plasma cells, mitotic figures and giant cells. Interspersed among the masses of plasma cells a number of spindle-shaped, hypertrophic connective-tissue cells, mononuclears and lymphocytes were seen. Dilated lymph vessels and capillaries filled with lymphocytes and mononuclears were also noted. Dilated follicles, some of which had formed into cysts and masses of pigment surrounding the vessels, completed the picture.

In the second case, the authors succeeded in finding the microörganism, Wright's Heleosoma tropicum. The parasite stains a pale blue, the nuclei being differentiated by their violet hue. The parasites are uniform in shape, round, about the size of a lymphocyte and evenly stained; a few are oblong, or oval, blunted on one side, and have crescentic outlines. Some of them have a peripheral membrane. The presence of these bodies proves this case to be identical with Aleppo boil.

Syphilis: Intensive Treatment, Pseudo-Reinfections, Early Recurrences. F. von Veress, p. 22.

After emphasizing the value of a combined salvarsan-mercury treatment, the author states his belief that the sooner salvarsan is administered in syphilis, the better the result will be. In opposition to this theory, however, Thalmann, Bettmann and others claim that intensive measures employed before the appearance of

general or secondary manifestations, unfavorably influence the subsequent course of the disease, giving rise to circumscribed "récidives," which Thalmann names "solitary secondary effects," Bettmann describing them as early "récidives." Thalmann observed that in some cases of early syphilis the administration of large doses of mercury, while causing a rapid disappearanc of the symptoms, would soon be followed by a relapse of "fresh" syphilis, being localized instead of generalized, and resembling scleroses; these were succeeded by a roseola, from six to eight weeks after the first exhibition of mercury. Bettmann made the same observation after giving salvarsan, in patients having both positive and negative Wassermann reactions. The author cites four cases published by Friebos, naming them "unusual secondary phenomena." Other authors describe similar instances, some regarding them as true reinfections, others naming them "pseudo-scleroses." Krefting, Stuehmers and Berings report cases of true reinfections.

From a pathogenetic standpoint, the author considers three explanations: 1. Early, severe secondary symptoms, giving rise to a second chancre (pseudo-chancre, early récidive, pseudo-reinfection.) 2. Superinfection of a patient still having syphilis, the fresh lesions varying in character and depending upon which stage of syphilis the patient happens to be in at the time of the superinfection. 3. True reinfections, in which an actual sterilization of the organism had been accomplished.

(*To be continued*).

(*Ibidem.* Jan. 13, 1912, liv. No. 2).

A Case of Primary Actinomycosis of the Skin. Louis Merian, p. 45.

Cutaneous actinomycosis is usually a secondary manifestation of the disease in the bones, lung, intestine, neck or lower jaw. Israel mentions three paths of invasion of this disease: the mouth, the respiratory tract and the intestinal canal. Primary actinomycosis of the skin was first reported by Majocchi in 1882; later, Ullmann and Lesser reported similar cases in which the infection took place through the abraided skin. A number of instances have been reported in which the infection followed trauma produced by splinters of wood, by cuts, etc., but usually the probable source of infection is difficult to determine. Compared with other parts of the body, primary actinomycosis of the skin is rare.

The author reports the case of a nineteen-year-old girl, who had a pea-sized tumor on the left naso-labial fold, somewhat pyramidal in shape, flattened on top, surrounded by a reddish-blue areola and slightly umbilicated and emitting a small drop of pus on pressure. The duration of the lesion was three weeks. No other lesions were discoverable. Histologically, the papillæ were flattened and broadened, due to the pressure of the deeper œdematous tissues; the blood vessels were increased in number, their walls showing no inflammatory changes; between the blood vessels were seen plasma cells, spindle cells and free nuclei, the last chiefly in the periphery of the degenerated area. Imbedded in this granulation tissue, but separated from it by a wall of leucocytes, the ray-fungus was easily recognized.

Histological Studies of Three Cases of Sporotrichosis. M. Hodara and Fuad Bey, p. 50.

The specimens which are the subject of this study were obtained from three members of the same family, two sisters and a brother. One of the girls had violet-hued, lentil-sized nodules of three months' duration, on the face, some of them crusted; the other girl had a chestnut-sized tumor on the ala nasi which resembled a lupus verrucosus, with smaller lesions on the face, the hands and the left elbow; duration, eight months. The boy had a single lesion, of three months' standing, on the wrist. The sporotrichon of de Beurmann was cultivated without

difficulty from the serum obtained from any of these nodules. Pure cultures were grown on Sabouraud's culture medium, appearing in eight days as gray patches from 1 to 2 mm. in size, which, a few days later, became raised, with a brown rim, a black centre and a white areola. A peculiar feature of these three cases was the fact that the lesions were limited to the skin, not involving any other tissues.

In the epidermis the periphery of the nodule showed hyperkeratosis of the horny layer with proliferation and widening of the stratum spinosum. The cell-bodies and nuclei were increased in size, the tissue showing a mild inter- and intracellular œdema. Toward the centre of the nodule the œdema was more marked and the keratohyalin had almost disappeared. Here and there the prickle cells showed degenerative changes, the nuclei being atrophic and poorly stained. The basal layer of the epidermis was flattened, as a result of the pressure exerted by the cellular infiltration in the papillæ, the epidermis itself being reduced to a few rows of homogeneous cells. These cells enmeshed large numbers of polynuclear leucocytes, forming tiny abscesses and later transforming the parakeratotic scale into a crust. In the cutis the periphery of the nodule showed thickening of the blood vessels and the capillaries; the connective-tissue cells were hypertrophied; the nuclei and protoplasmic granules were increased in size. The blood and lymph vessels were dilated, the connective tissue at the periphery showing œdema. Near the centre, numbers of plasma cells were seen around and between the vessels, together with epithelioid cells, giant cells, lymphocytes and mononuclears. The blood vessels were dilated with blood and polynuclear leucocytes, chiefly in the upper layer of the cutis. The picture resembled tubercle, with its epithelioid cells, giant cells, masses of plasma cells and, in the centre, large numbers of pus cells, but finding the sporotrichon decided the true nature of the lesion.

The authors inoculated a rat with some of their culture, the animal dying about a week later of sporotrichosis septicæmia. In a guinea pig, the results of an intraperitoneal inoculation manifested itself only after a lapse of four weeks. The patients showed marked improvement under potassium iodide.

Contribution to the Chemistry of the Skin. The Distribution of Oxygen and Oxygen-Ferments in the Skin. (Conclusion). P. G. Unna and L. Golodetz, p. 54.

Since the blue coloration of the tissues containing peroxidase is very unstable, the authors recommend the following preparation to insure the stain at least an hour: after the sections have remained in the solution several minutes, they are transferred, without further washing, to a bath of pure alcohol which has previously been acidified with a drop of glacial acetic acid. The sections are dehydrated and placed into xylol and balsam. They are fixed and hardened in alcohol and imbedded in celloidin. Since all contact with solvents was avoided, they were uniform in color and regular in outline. Not only was the blue stain of the nuclei perfect, but the dark blue of the mast-cells and the violet of the cartilage cells were equally distinct. In every case the colorations resulting from the use of peroxidase stain were more striking than those obtained from Rongalit-white, acting on free oxygen. In animal tissues the undoubted existence of peroxidase depots on one hand and the lack of oxidase depots on the other, logically impel the conclusion of the existence of superoxide of hydrogen or of other peroxides in the same tissues, and in the same locality. According to Bach-Engler's theory of oxidation-ferments, a peroxidase can only act on an immediately available peroxide in order to liberate the oxygen for oxidation in active form. Since all oxygen brought to the organism through the medium of the blood is inactive atmospheric oxygen, it may be assumed that the necessary peroxide in the blood

required for the peroxidase of the tissues, may be found in the plasma and the tissue lymph vessels. Presence of hydrogen peroxide in these fluids has never been proven (Oppenheimer) and, further, it would be difficult to do so, since the blood and especially the blood corpuscles are extremely rich in catalase, which in every instance splits up the H_2O_2 into H_2O plus O. It is more plausible to believe that the peroxide may be found in the plasma alone.

In horse serum the leucocytes probably contain peroxide which, however, would be destroyed by the catalase of the serum. We know that the transporting medium of the oxygen to the tissue cells contains no active oxygen and that the tissue lymph which circulates around the cells, carries to these molecular oxygen only. Briefly, we must seek the peroxide in the nuclei and in the principal peroxidase depots.

The blood of birds (ducks and geese) was found to be the best for this research since this blood is rich in peroxidase and, by inference, in peroxide. Peroxide being replacable by catalase as well as by peroxidase, it is necessary in the very beginning, to eliminate these; the bird blood was supersaturated with H_2O_2 for 24 hours and, to guard against fermentation, it was again treated with the peroxide; the whitened substance was in part decomposed to a sort of cell-paste, the H_2O_2 of which was easily eliminated by the centrifugal machine. The sediment was placed on several slides and dried; microscopically, the cells were shown well preserved and free from peroxidase. Here we had a condition in which the hypothetically assumed oxygenase could be transformed into a peroxide through atmospheric agency, without danger of replacement by ferments. If such a transformation occurred, a blue stain should result from treatment of the product thus obtained, with benzidin and horseradish extract. The authors, unfortunately, were unsuccessful in their experimentation in this direction.

It was of prime importance to ascertain if the nuclei, now free of peroxide, contained oxygen deposits. This was found to be the case and the next step was to study their character. Experiment showed that they stained blue with the Rongalit-white—proof that the oxygen originated in the nuclei themselves—and was not derived from atmospheric oxygen. Further research showed that the nuclei contained, besides the oxidation-ferment, peroxidase, a so-called mineral "catalysator."

Admittedly, although the authors have not succeeded in following the development of oxygen-activity in the skin, they have at least given an insight into the normal distribution of the oxygen. The histological elements in which the oxygen is conserved, as well as the tissues in which it is utilized, are now known; it has been shown that all nuclei contain oxygen; the nuclei of the epidermis, of the horny layer, of the sweat glands, of the hair follicles and in particular, the nuclei of the epithelial cells, which cover the hair papillæ are rich in oxygen. The nuclei of the other connective tissue cells contain free oxygen only in small quantities, evidenced by a less-marked blue stain. The same condition obtains with the nuclei of the smooth-muscle cells, whereas the nuclei of the sebaceous-gland cells are rich in oxygen. Mast-cells and cartilage cells also contain oxygen.

Secondary oxygen depots are observed in the various forms of protoplasm in which free oxygen exists, under certain conditions, liberated from the nuclei. Normally, this occurs in the basal-cell epithelium of the prickle-cell layer, in its upper strata and, to a lesser degree, in the prickle cells further down, as well as in the connective-tissue cells of the cutis. In the neighborhood of depots rich in oxygen, secondary depots may be found in collagen bundles, within smooth muscles. In the skin, peroxidase depots usually exist in the primary depots, as in epithelial and connective-tissue cells, in mast-cells and in cartilage cells. Secondary oxygen depots do not react to peroxidase.

From these conclusions, something may be learned of the oxygen-circulation of the skin. The blood carries the inactive oxygen into the cutaneous tissues

through the arterial skin-capillaries. The chain of mast-cells lies close to these capillaries, its duty being to activate the granular layer through the medium of the lmyph and, in case the oxygen combines in the form of a peroxide, to liberate and return it to the lymph. In this manner the cutaneous tissue receives its supply of active oxygen. At this stage the active oxygen is apparently weakened to such an extent, that the epithelial organs are not sufficiently supplied with oxygen; here the second chain of mast-cells begins to functionate, for they are the activators of the oxygen-consumption of the epithelial appendages of the skin. A fresh reaction occurs in these appendages, its activity depending upon the amount of cell division taking place in the epithelium. This accounts for the high oxygen-content of the basal prickle cells and the cells of the hair roots. The horny layer, as well as the hair, represents depots of reduction, free of oxygen.

Syphilis: Intensive Treatment, Pseudo-Reinfections and Early Recurrences. (Conclusion). Franz von Veress, p. 62.

The author describes in detail, a case of undoubted reinfection; the patient had been under the most painstaking treatment, all visible lesions had disappeared, the Wassermann test was negative; three weeks after his dismissal, he reappeared with a typical indurated chancre, occupying the same spot as the previous initial lesion. The man admitted having cohabited with the same women by whom he had been formerly infected. The elapsed time between the first and second scleroses was six months. The second chancre contained large numbers of spirochætæ, but the Wassermann was negative. In summing up his remarks upon this case, the author states that he would be inclined to consider this an instance of true reinfection, but the fact that the second chancre was located in exactly the same spot as the first, casts a strong element of doubt on the hypothesis of true reinfection. Had the second sclerosis appeared elsewhere, he would not hesitate to regard it as such.

The theories of Thalmann and of Bettmann apply to this case. The early and intensive treatment freed the system of all, or nearly all of the spirochætæ in a short time, the patient acquiring a relative susceptibility to a fresh infection, his immunity having disappeared. It is supposed that the latent and encapsulated organisms were reawakened to activity and encountered the same conditions as had obtained at the time of the original infection. This also would tend to explain the negative Wassermann reaction. This, then, is an example of the so-called secondary sclerosis, not an "early recurrence," nor a "pseudo-reinfection."

Early and energetic treatment both with mercury and salvarsan, probably induces the so-called early recurrences, not on the skin alone, but in the internal organs as well. This has a bearing on the nerve affections which had heretofore been ascribed to arsenical poisoning; Ehrlich considers these to be neuro-recurrences in near-sterilized cases in whom the few remaining spirochætæ have been stimulated into renewed activity within the substance of the affected nerves. The cases showing symptoms of cerebral syphilis after salvarsan treatment also are included in this category and strongly point to the necessity of following up the arsenic with drastic mercurial treatment. The numerous reported cases of apparently recurring scleroses following reinfection, which some authors claim to be true reinfections, are, according to Thalmann's theory, nothing more or less than unusually strong "early recurrences"—a sequence to the early and intensive treatment of the original syphilitic infection. The pseudo-scleroses usually developing with a negative Wassermann reaction, may appear in the same spot as the initial chancre and may be accompanied by the characteristic glandular enlargements, making it difficult to distinguish them from true initial lesions. They may also resemble extragenital reinfections.

PROVISIONAL PROGRAM.

THIRTY-SIXTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

St. Louis, Mo., May 23, 24 and 25, 1912.

SPECIAL CONTRIBUTIONS.

Grover W. Wende, M.D., Buffalo. Presidential Address.

Charles W. Duval, M.D., New Orleans (by invitation). The Culture of the Lepra Bacillus.

George T. Moore, M.D., St. Louis (by invitation). The Production of Disease in Plants and Animals by Parasitic Organisms; with Demonstrations.

GENERAL DISCUSSION ON THE ÆTIOLOGY OF ECZEMA.

Subject Introduced by Drs. Johnston and Knowles.

James C. Johnston, M.D., New York. Speculations as to the Causation of Eczema.

Frank C. Knowles, M.D., Philadelphia. The External Ætiology of Eczema.

George T. Jackson, M.D., and C. Wood McMurtry, M.D., New York. Seborrhœa Capitis.

Charles J. White, M.D., Boston. The Dry Treatment of Certain Moist Dermatoses.

GENERAL CONTRIBUTIONS.

Howard Fox, M.D., New York. Noguchi's Luetin Reaction; Comparison with the Wassermann Test.

George M. MacKee, M.D., New York. The Single Dose X-Ray Method.

Joseph Zeisler, M.D., Chicago. A Case of So-Called Prurigo Nodularis.

Alfred Schalek, M.D., Omaha. Acanthosis Nigricans, with Report of a Case.

Milton B. Hartzell, M.D., Philadelphia. Erythema ab igne.

Oliver S. Ormsby, M.D., Chicago. Pellagra.

William H. Mook, M.D., St. Louis. Report of Four Cases of Keratosis Follicularis (Darier's Disease).

Otto H. Foerster, M.D., Milwaukee. An Inquiry into the Efficiency of Sulphur Lotions.

William T. Corlett, M.D., Cleveland. A Study of Twelve Cases of Pemphigus Foliaceus.

George H. Fox, M.D., New York. The Classification and Nomenclature of Cutaneous Syphilis.

Sigmund Pollitzer, M.D., New York. Title to be announced.

Harry E. Alderson, M.D., San Francisco. Title to be announced.

William A. Pusey, M.D., Chicago. Concerning Epithelioma of the Lip.

Augustus Ravogli, M.D., Cincinnati. Can Psoriasis be Cured?

James M. Winfield, M.D., Brooklyn. Cutaneous Lympho-Sarcoma.

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XANTHOMA TUBEROSUM MULTIPLEX.*

By S. Pollitzer, M.D., and Udo J. Wile, M.D., New York.

FOR a long period, up to a couple of years ago, contributions to the study of the xanthomata were almost entirely clinical and but little real advance was made in our knowledge of this interesting class of dermatoses. Within the last few years important advances have been made in our knowledge of the chemistry of fatty bodies which enter so largely into the structure of the xanthomata; and one† of us has recently shown that the so-called xanthoma palpebrarum results from the degeneration of muscle fibres and, on histological as well as clinical grounds, should be separated entirely from the tuberous form, of which it has up to the present time been assumed to be a mere formal variant. This assumption pervades the older literature and to some extent vitiates, also, the value of the more recent work on the subject of xanthomata. Lesions of xanthoma tuberosum are very seldom found on the face; but they do occur in exceptional cases and this circumstance has led to further confusion. It seems desirable, therefore, when an opportunity offered, to study anew the pathology of xanthoma tuberosum in the light of our more recent knowledge.

For these studies there were at our disposal a number of sections from several cases observed during the past twenty years and second, material obtained by biopsy of a case recently under observation.

The patient was a man, thirty-two years of age, of Hungarian birth, in whom a careful examination showed no deviation from the normal in any of his viscera. There was no history of jaundice and his urine was free from sugar. His cuta-

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†Pollitzer, Unna's Festschrift and *Jour. Cutan. Dis.,* Dec., 1910.

neous affection, which caused him no trouble aside from the cosmetic disfigurement, had been present to some extent since early childhood, in the form of two nodules, one located on the posterior outer side of the left ankle and one on the middle of the posterior surface of the left thigh. These nodules are now about the size of a small hazel-nut and had undergone no change, the patient said, for many years. Six years ago, a number of small, yellow patches appeared on the front and sides of both knees and slowly increased in size, forming at present elevated, hard, round papules of the average size of a pea. Within a year of this time, crops of similar lesions appeared on the buttocks, elbows and hands. Two years ago, similar lesions developed on the wrists and on the sides of several fingers, and yellowish patches developed in the palms, for the most part along the normal folds. About this time hard nodules appeared on the backs of the hands and over the metacarpo-phalangeal joints. These latter were different from all the other tumors, in that there was no change in the color of the skin over them. Examination showed them to be located in the extensor tendon sheathes.

It is not necessary to enter into a detailed clinical description of the lesions. The patient was shown at the Clinical Meeting of this Association—held in New York last December—and is a typical case of xanthoma tuberosum. While most of the tumors were approximately of the size of a pea, there was a group of them, in the lower dorsal region, which had remained stationary for several years and were less than half this size, and over the olecranon, on both sides, there were conglomerate tumors the size of a large walnut. On the upper arm two minute yellow lesions, about 1 mm. in diameter, were seen, which the patient said he had first noted three or four weeks ago.

For histological purposes, tumors of various sizes were excised. The smallest of these were two minute papules in the upper arm, and we believe that they are perhaps the earliest lesions of xanthoma which have ever been studied.

Under the microscope, with a low power, we find the greater portion of the section from the smallest lesions normal, the sole change being limited to an aggregation of cells in the immediate neighborhood of a branching blood vessel of the subpapillary layer. With a somewhat higher power, slight changes are also noted around the capillaries in some of the papillæ in the outlying parts of the section. Examination with a still higher power, shows the abnormal tissue around the blood vessel to consist of cells, slightly larger than endothelial cells, oval or rhombic in outline, having a finely granular, pale-staining cytoplasm which in alcohol specimens shows in many of the cells an apparent vesiculation, and a centrally placed, well-staining nucleus, often showing several nucleoli. Two or more nuclei in the same cell are occasionally seen. A small number of similar cells are found in the immediate neighborhood of the capillaries and lymph spaces of some of the papillæ.

In sections fixed in osmic acid, many of the cells of the larger group around the subpapillary vessel disclose fine, black particles,

which in some instances are so dense as to almost entirely obscure the cell. Similar fine, black particles may be seen in the lymph spaces between the cells and to some extent lying free in the lymph spaces under the epidermis, in the cells around the papillary capillaries, in the endothelium of the capillaries, and here and there in the basal epithelial cells of the rete (Figs. 1 and 2).

To sum up, we have in the earliest lesions of xanthoma, a proliferation of the cells in the immediate neighborhood of the papillary and subpapillary blood vessels, together with an infiltration of the perivascular and intercellular lymph spaces with a fatty substance, which is present to a considerable extent also in the new-formed cells, and in the endothelium of the capillaries, and here and there in the basal layer of the epidermis. These new-formed cells present the picture of small or young "xanthoma cells."

In a lesion of medium size, the section presents a conglomerate picture, made up of xanthoma cells, fibroblasts and connective tissue. In these sections the hyperplasia of the xanthoma cells has reached such proportions that a definite relationship to the blood vessels is no longer readily demonstrable. The cells themselves are for the most part larger than those seen in sections in the earlier lesions; many of them contain two or more nuclei and here and there large cells may be seen containing great numbers of nuclei—the xanthoma giant cells. In osmic-acid specimens, or in those stained with Sudan III, these cells are found to be filled almost entirely with a fatty substance, while the extraction of this substance in alcohol specimens, gives to the cell the reticular appearance which constitutes the cytoplasm of a "Schaumzelle." In the connective tissue surrounding the nests of xanthoma cells, fibroblasts in great numbers are found, producing a picture that may readily be mistaken for fibrosarcoma. In the sections stained with osmic acid or Sudan III, the fibroblasts are seen to be filled with fat, in fine droplets and coarse clumps, on either side of the nucleus, tapering out to follow the fusiform contours of the cell (Fig. 8).

In the sections from the largest and the oldest specimens, the picture is quite different. At first glance, under the microscope, the appearance is frankly that of a fibroma. The xanthoma cells are reduced to a small number in proportion to the amount of fibrous tissue.

Examination of fresh sections of xanthoma by polarized light, shows that at least a great portion of the fatty substance contained in the cells, presents the phenomenon of anisotropism, an observation

first made by Stoerk and Panzer, and many so-called myelin figures are seen.

We may refer here to recent work on the chemistry of the lipoids —substances which seem to play a rôle of primary importance in the physiology and pathology of the cell. A full discussion of the chemistry of these substances, however, would carry us too far. Suffice it to say, that the present tendency of the teaching of physiological chemistry is toward the view that the cytoplasm of cells in general consists in the main of a chemical compound of a protein and lipoid substance. In certain tissues, *e. g.*, the cortex of the adrenals, lipoid substances staining yellowish-red with Sudan III and brownish-black with osmic acid and showing anisotropism under polarized light, are normally present. Similar substances are found free in greater or less degree in the cells in many pathological conditions, for instance, in chronic parenchymatous nephritis and in many tumor cells, especially those undergoing rapid metabolic changes, either constructive or destructive. Lipoids occur also under normal conditions in the blood and under certain pathological conditions—especially in diseases of the liver and in diabetes—they are present in greatly increased quantity.

An increase in the amount of cholesterol in these disorders has long been known. In recent years it has been shown that cholesterol occurs in the form of a cholesterol-fatty-acid-ester; and it is this particular lipoid which shows the physical and tinctorial properties we have referred to and which it has been demonstrated constituted the greater portion of the fatty substance in the cells of xanthoma tuberosum. In many older xanthoma tumors the cholesterol compound breaks up and we find masses of cholesterol crystals in the tissues. A beautiful example of this kind was shown by Dr. J. C. Johnston at a meeting of this Association some years ago. The increased occurrence of cholesterol-ester in the blood in icterus and in diabetes—the condition of lipoidæmia—together with the presence of this substance in great quantity in the tumors of xanthoma tuberosum, affords an interesting explanation of the relation which has long been known to exist between these systemic disturbances and the cutaneous lesions in question, and throws a new light on the underlying pathological processes in xanthoma. It seems likely that the lipoids in excess in the blood in this condition, pass out through the capillaries of the skin at some point of diminished resistance. In the tissues around the joints—elbows, fingers, hips, knees and hands—the blood vessels of the skin are subject to special strain,

the natural movements of the joints causing alternations of tension and relaxation of the skin, and in these regions especially do we find the greatest development of xanthoma tuberosum. The cholesterol-ester which passes out of the capillaries, we have found in the first stage of the disease lying to some extent free in the lymph spaces, where it is taken up by the cells in the immediate neighborhood of the capillary, and some of it infiltrates even the epithelial cells of the rete. The presence of this lipoid in the perivascular connective-tissue cells, appears to act as a stimulus and causes a proliferation of these cells, which increase in numbers and size and, taking up more and more of the lipoid poured out from the blood vessels, constitute the xanthoma cells.

It is not clear to us whether the fixed connective-tissue cells undergo a similar stimulation through the excess of lipoid, proliferate, form fibroblasts and ultimately connective tissue (in Fig. 7 from the earliest lesions, a branched, fixed connective-tissue cell is shown filled with droplets blackened with osmic acid); or whether the fibroblastic hyperplasia is not due to a secondary stimulation derived from the presence of the proliferating perivascular cells. We think the latter view the more probable and base our opinion on the fact that our earliest specimens show no evidence of fixed connective-tissue cell proliferation, as well as on the arrangement of the fibroblasts in definite layers in the periphery of the groups of xanthoma cells. If this view is correct, it is evident that the fibromatous change in xanthoma tuberosum is wholly a secondary matter, of no real importance in the histogenesis of these tumors and unworthy of the emphasis which so many previous writers have laid on its occurrence.

In view of this explanation of the nature of xanthoma tuberosum, it is of interest to inquire into the reason for the fairly constant size of the adult nodules in the skin: Why, since the supply of cholesterol-ester is practically unlimited, do not these tumors continue to grow to an indefinite degree? Two factors enter into this question: In the first place, the secondary connective-tissue hyperplasia, surrounding the xanthoma cells, ultimately preponderates over the xanthoma cells and mechanically prevents their further increase. Secondly, there is here, as in so many other pathological conditions, the question of nutrition from the blood, which is interfered with in the first place by the fibrous tissue, and in the second place by the excessive deposition of lipoids in the proliferated cells around the blood vessels. This last point is worthy of further exposition. In the majority of cases of xanthoma tuberosum which we have exam-

ined, we have found—as one of us pointed out long ago—the central blood vessel of a nodule surrounded by a broad zone, which showed in alcohol-specimens only the merest traces of cellular outlines, without nuclei (Fig. 9), and took fat stains with osmic acid and Sudan III, intensely and diffusely. Such a thick cylinder of practically structureless fatty substance around the blood vessel, would naturally constitute an impervious layer through which the nutritive elements of the blood could scarcely pass.

En Résumé—Xanthoma tuberosum represents an irritative connective-tissue hyperplasia, in which the extravasation of cholesterol-fatty-acid-ester, present in excess in the blood, serves as the stimulus.

The first changes appear in the adventitial connective-tissue cells of the smallest blood vessels of the papillary and subpapillary layers, which take up the lipoids poured out from the vessels, proliferate and increase in size, ultimately forming the typical xanthoma cells.

The presence of the lipoids in the cells does not appear to affect their vitality, except in older tumors, where the layers adjacent to a vessel may become completely obliterated by the lipoidal infiltration.

The proliferation of the perivascular cells, acts in turn as a stimulus to the development of connective tissue which, as fibroblasts and collagenous bundles, surrounds the nests of xanthoma cells and ultimately predominates over the true xanthomatous elements.

Explanation of Figures.

The figures were drawn with the aid of a camera lucida, by Dr. Ira van Gieson.

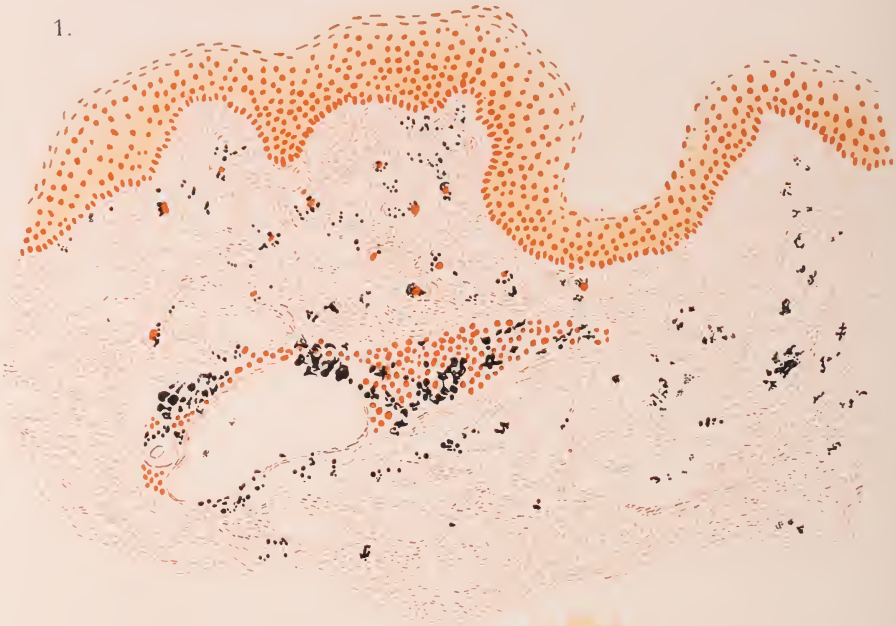
Figure 1. Leitz Obj. 3, Oc. 2. Osmic acid, saffranin. Topographical view of section of miliary lesion of xanthoma, composed of proliferating adventitial connective-tissue cells around a small vein in the subpapillary layer. In and among this group of cells, as well as in the endothelial lining of the vessel, a large amount of fatty substance stained with osmic acid is seen, in fine and coarse particles. Similar particles stained with osmic acid are found scattered about the central lesion, lying free in the lymph spaces and in the endothelial cells of these spaces, especially between the central lesion and the rete. In two papillæ, similar particles are seen in the immediate neighborhood of capillaries.

Figure 2. Leitz Obj. 1-12, Oc. 2. Osmic acid, saffranin. One of the papillæ of Fig. 1, more highly magnified. Three small vessels cut transversely and one obliquely, showing a dilatation of the perivascular spaces, with osmic-acid-stained droplets, some of which lie free around and others within the endothelial cells of the perivascular spaces. Such cells are in many instances distinctly enlarged and there seems to be even in this early stage a slight hyperplasia of these cells. In the basal layer of the rete, a cell is shown, containing similar black particles around its nucleus.

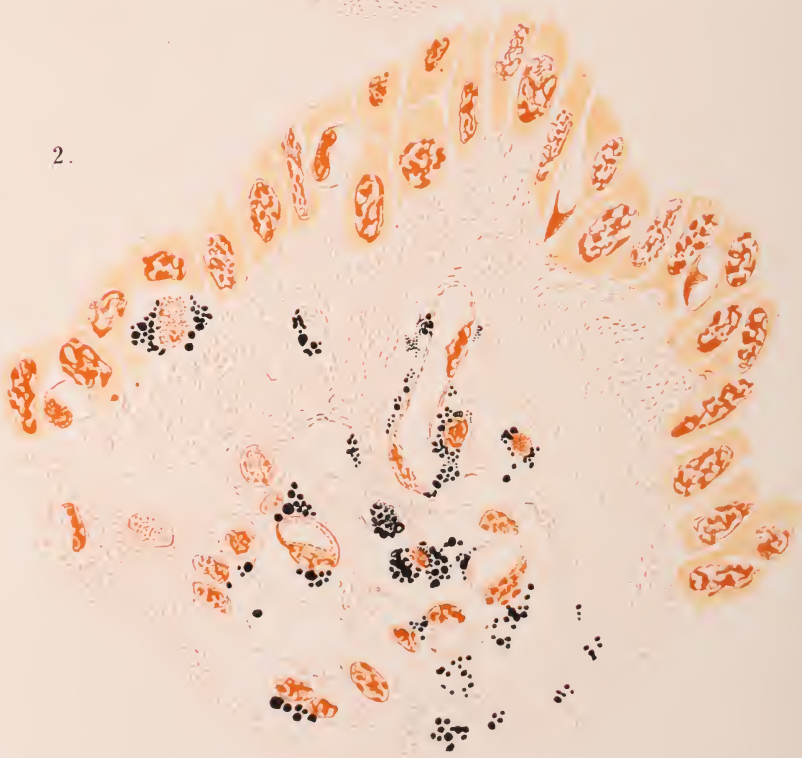
Figures 3 to 6. Leitz Obj. 1-12, Oc. 4. Osmic acid, saffranin. Endothelial cells within the lymph spaces showing stages of infiltration with fatty particles; Fig. 3 represents the early stage. In Fig. 4, the lymph crevice is almost filled with fatty particles. In Fig. 5, the particles are so densely packed that they form an opaque mulberry. In Fig. 6, there is a group of fatty particles appar-

PLATE XII.—To Illustrate Article by Dr. S. Pollitzer and Dr. Udo J. Wile.

1.



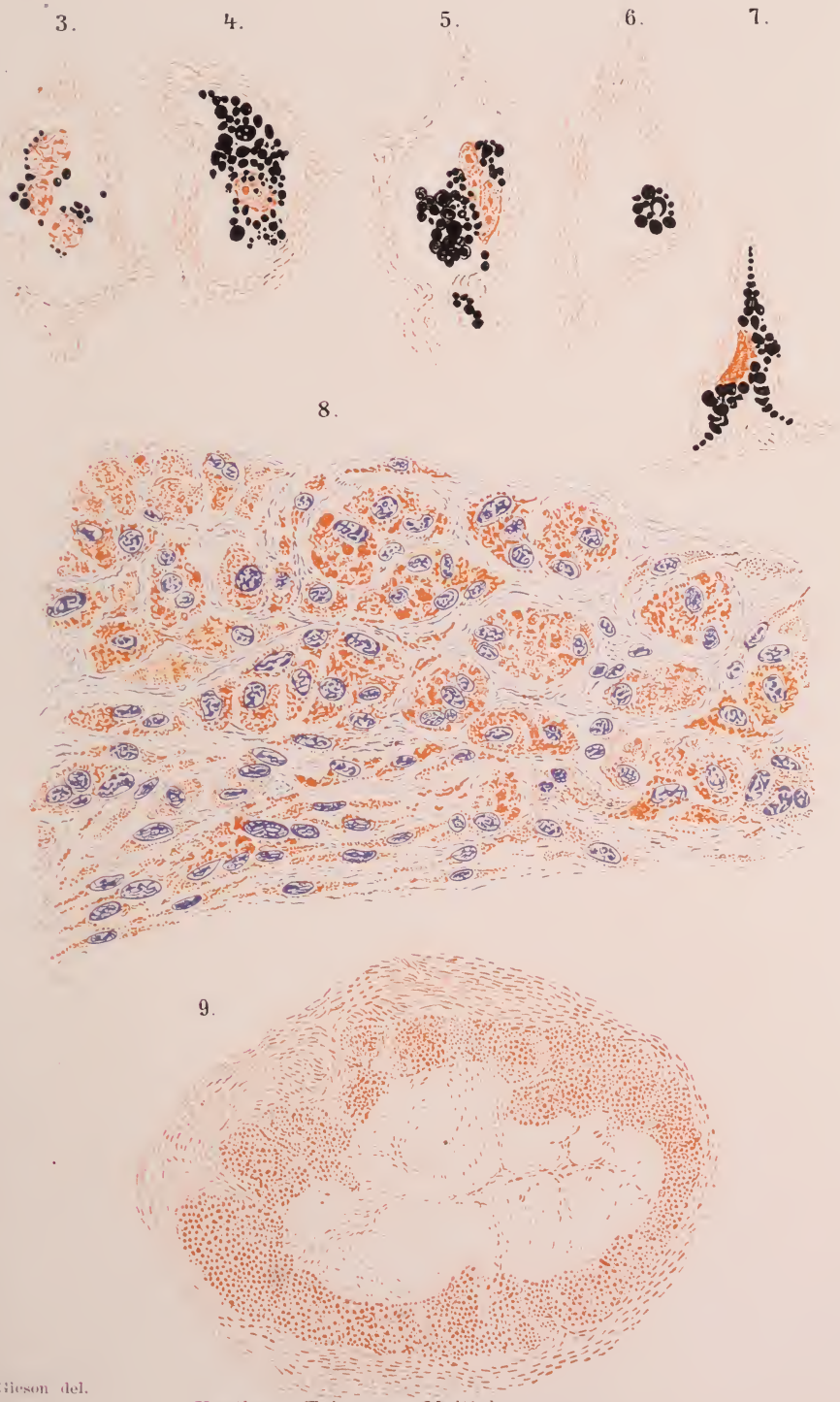
2.



Van Gieson del.

Xanthoma Tuberosum Multiplex.

PLATE XIII.—To Illustrate Article by Dr. S. Pollitzer and Dr. Udo J. Wile.



Van Gieson del.

Xanthoma Tuberosum Multiplex.

ently lying free but the section may have been cut through the edge of a densely infiltrated cell as shown in Fig. 5.

Figure 7. Leitz Obj. 1-12, Oc. 4. Osmic acid, saffranin. A fixed connective-tissue cell, the branching and wing-like processes of which are studded with fat droplets.

Figure 8. Leitz Obj. 1-12, "sucher" Oc. 2. Formalin, Hæmatoxylin, Sudan III. The figure shows nests of xanthoma cells almost completely filled with fatty substance stained orange with the Sudan III and bounded on one side by layers of fibroblasts, similarly impregnated with lipoid.

Figure 9. Leitz Obj. 1-12, Oc. 1. Czokor-carmine. Old xanthoma nodule, in the centre of which is a small vessel having the appearance of greatly thickened hyaline walls, surrounded by xanthoma cells. In sections stained for fat it becomes clear that the apparent hyaline matter is fat, which has so completely obliterated the circumferential xanthoma cells, as to leave only the merest outlines of these cells in its midst. Such a cylinder of almost solid fatty substance surrounding the vessel constitutes an impervious layer, which must inhibit the nutrition and further growth of the lesion.

DISCUSSION.

Dr. Pusey said he wished to express his admiration of Dr. Pollitzer and his collaborator for their excursion into this extremely difficult field.

Dr. Gilchrist, after expressing his admiration of the work of Drs. Pollitzer and Wile in connection with xanthoma, said the paper was of such a character that it could scarcely be discussed with justice to the authors until after it had been carefully read and digested.

Dr. Hartzell joined with Drs. Pusey and Gilchrist in congratulating Dr. Pollitzer and his co-worker upon their most admirable paper.

Dr. Schamberg said the pathogenesis of xanthoma tuberosum, as elucidated in the paper by Drs. Pollitzer and Wile, was certainly most attractive and plausible and from the character of Dr. Pollitzer's previous work, he had no doubt that the pathological findings of the authors would be confirmed.

Dr. Fordyce said the paper by Dr. Pollitzer and his collaborator certainly contained the clearest exposition that he had ever heard of the way in which the xanthoma lesion developed.

PRECANCEROUS DERMATOSES: A STUDY OF TWO CASES OF CHRONIC ATYPICAL EPITHELIAL PROLIFERATION.

By John T. Bowen, M.D., Boston.

THE various cutaneous conditions that may precede the development of cancer have been sometimes grouped, more or less loosely, under the title "Precancerous Conditions," "Precancerous Keratoses," etc. Thus, Dubreuilh[1] in his paper "Des hyperkératoses circonscrites," read at the International Congress of Dermatology in London, 1896, discusses under the heading "precancerous keratoses," the following affections: cornu cutaneum, kera-

[1] *Ann. de dermat. et de syph.*, 1896, p. 1158.

toma senile, xeroderma pigmentosum, arsenical cancer, chimney-sweep's cancer, cancer in workers in paraffine and tar, and leucokeratoses. Keratosis follicularis (Darier's disease) and Paget's disease, are cited as affections which, although not strictly coming under the head of keratoses, have a distinct analogy with the precancerous keratoses.

Hartzell[1], in a paper read at a meeting of the American Dermatological Association in Washington in 1903, touches upon various affections of the skin such as tuberculosis, syphilis and various benign new growths, that may be followed by cancer, together with the forms of keratoses just mentioned. Darier, also, has given prominence to these precancerous dermatoses.

It is to this class of cases that I wish to call attention and to emphasize certain peculiarities of histological structure that are common to many or all of them, which were present to a prominent degree in the two cases that are the subjects of this paper.

The precancerous dermatoses that especially concern us here are keratosis senilis, Paget's disease of the nipple, extramammary Paget's disease, xeroderma pigmentosum, arsenical keratosis, chronic X-ray dermatitis, Unna's sailor's carcinoma, etc. All of these conditions have in common a slowly increasing epithelial hypertrophy, characterized by a hyperkeratosis (except in the case of Paget's disease), well marked, as a rule, and showing itself as one of the earlier clinical manifestations; by a pronounced proliferation of the rete Malpighii, accompanied by karyokinetic figures; and by a vacuolization and degenerative changes in the epithelial cells, that are more or less characteristic. Connective-tissue changes are apparently present in all, but except in the case of X-ray dermatitis, their features have not been so prominently mentioned.

The probable importance of these precancerous conditions in a search for the genesis of cancer has been more than once alluded to. It is to the skin that we must look for the beginnings of cancer, as has been emphasized by Ribbert, and it is from the early cutaneous changes that he has drawn his most important conclusions and based his conception of the mode of origin of malignant epithelial growths. It seems to me, therefore, that no further apology is needed for calling attention to this group of cutaneous affections that are so often the precursors of cancer, and in which the unusual cases that are here reported seem surely to belong.

[1] *Jour. Cutan. Dis.*, Sept., 1903.

Case 1.

Lesions of the Buttock of Twenty Years' Duration

The first case which I have to describe is remarkable on account of the length of time the affection had already lasted. The patient was admitted to the skin ward of the Massachusetts General Hospital at three different times during the years 1909, 1910, and 1911, so that abundant opportunity was offered for a thorough study of his case.

He was first admitted on April 16, 1909. The man was of English birth, a native of Fall River, Massachusetts, 49 years of age, a weaver by occupation, and a man of considerable intelligence. He declared that the affection had first appeared 19 years previously when he was 30 years of age. The first appearances were those of a good sized "pimple" on his gluteal region, which was accompanied by slight itching, but of which he took no notice for several years until he became conscious that it was gradually increasing in size. He complained of some pain in connection with the lesions, chiefly noticeable when seated or after walking, and especially marked at times when the lesion became excoriated and showed a discharge. The inconvenience and pain were chiefly noticeable in the warm weather. During the past 19 years he had used many external applications and at one time he had one treatment of X-rays without producing any marked reaction or results.

The patient was a man of small stature, weighing only in the neighborhood of 105 lbs. His appearance, however, was that of a person in fair health. Nothing of importance could be found in the family history. He had two brothers and one sister living and well, and could give no history of any preceding affections except congestion of the lungs 12 years ago. He denied venereal disease. He was not addicted to the use of alcohol.

Nothing abnormal could be detected on examination of the internal organs. When stripped, the patient presented the appearance of an under-sized, thin, but not cachectic man. In the right lumbar region there were scars which the patient said were derived from an abscess which he had when a boy. An interesting feature was the presence of quite numerous small angiomata, scattered over the abdomen and back, from the size of a pin's head to that of a small pea. These lesions he had never observed with any care but they had probably been present for many years.

The affection of the skin for which he sought relief was situated on the left buttock. The area invaded was irregularly rounded and measured about 4 inches in each diameter. This area was covered with lesions both isolated and confluent. The isolated lesions were represented by papules and tubercles slightly raised above the surface, flattened at the top, and generally rounded at the circumference. These isolated lesions varied in size from an eighth of an inch to half an inch in diameter; they were generally situated at the outer borders of the patch, and at the extreme edge they took on often an annular arrangement, or in some instances they formed almost serpiginous figures. The centre of the patch was made up of more or less confluent lesions, although there were many partially defined, separate lesions. A small amount of cicatricial tissue could be seen interspersed between papules and raised, confluent areas.

The color of the lesions and confluent patches was a dull red. The lesions were moderately firm, but not hard to the touch. The surface of the lesions was somewhat uneven. In places there was a papillomatous tendency. The surface was, in places, scaling and crusted, and here and there were marks of a slight exudation. The crusts were always extremely superficial.

On the possibility that these lesions might be of syphilitic nature the patient was put upon iodide of potash. Some improvement was noted under this treat-

ment during the first few weeks, but as the improvement seemed to be at a standstill, curetting was resorted to, small areas being treated at a time, as the patient was extremely sensitive and refused active surgical intervention. Under the curette the lesions bled freely and were extremely painful.

On the 5th of June he was discharged, much relieved. A large portion of the tissue had been mechanically destroyed by the curette, although there were still a number of areas which had not been entirely removed.

During his stay in the hospital the patient's condition was extremely good. Examination of the blood and secretions showed nothing abnormal. Several pieces of tissue were removed for microscopical examination. The findings will be referred to later.

Just about a year later, on April 4th, 1910, the patient was readmitted to the hospital. During the interval since last seen he had worked quite steadily at his occupation. Practically no treatment had been followed with the exception of some indifferent ointments. He appeared again at the hospital because the lesions in the affected area had considerably increased in number and sitting and walking had again become painful.

On examination it was found that the lesions were still much less pronounced than when he had first applied for treatment, but that there had been a considerable increase within the last year. The extent of the area had slightly increased, new lesions having appeared at the lower border of the patch. Considerable smooth cicatricial tissue was to be seen in the centre of the patch, which represented the site of the lesions that had been removed by the curette. The confluent areas that had previously been present no longer existed.

At this time it was decided to treat the lesions by freezing with carbon dioxide snow, as the patient was still extremely sensitive, and refused active surgical treatment. The lesions were deeply frozen with firm pressure for 60 seconds, the area and lesions being treated piece-meal, a few at a time.

The patient remained this time in the hospital 6 weeks and when he left, the skin over the patch had been converted into a smooth cicatrix with only here and there the remains of a lesion.

Again, on Sept. 27, 1911, the patient was admitted to the hospital. In the interval of 15 months, during which time no treatment had been followed, there had been a considerable recurrence at the edge of the area, and also here and there in the midst of the cicatrix caused by treatment. Some of the new lesions had a papillomatous appearance clinically, and bled rather freely upon being handled. None of the lesions was as large as the largest individual ones described previously. Many of these lesions were distinctly nummular in shape and varied in size from that of a three-cent piece to that of a half dollar. The largest ones were raised ⅛ of an inch above the surface of the skin. The nummular patches were situated chiefly along the lower border of the affected area and were more or less confluent, forming polycyclical figures along the lower edge.

The pinhead to pea-sized angiomata over the body and extremities had not increased in numbers apparently, and presented the same appearances as before.

The patient's condition was practically the same. He asserted that although not precluding work, the lesions made it hard to get about, especially in hot weather. He also declared that no lesion had disappeared spontaneously, so far as he could determine, but that all improvement had been from mechanical interference. The patient was again treated by the freezing method and remained in the hospital nearly two months. At the time of his discharge practically the whole area had been transformed into a cicatrix and only a slight infiltration was left at the site of some of the lesions that had resisted the freezing more than the others.

Case 2.

Lesions of the Lower Leg of Nearly Ten Years' Duration.

The case that has just been described immediately recalled to mind a similar case that had been observed at the out-patient department of the hospital at intervals for several years. The man was 52 years of age, a native of Scotland, a cooper by trade, residing in the suburbs of Boston.

He first came to the hospital Sept. 6, 1907. The history was that the lesions had existed for from 4 to 5 years. He presented, on the outer side of the calf of the right leg, an area resembling in a marked degree the appearances that have just been described as occurring on the buttocks in the previous case. The area was from 3 to 4 inches in diameter and consisted of nodules from the size of a pin's head to that of a bean, many of which were confluent, others discrete and well bounded from the sound skin. They were raised about an eighth of an inch above the level of the skin, were flat on the surface and many of the larger lesions showed a papillomatous element. The color was a pale red. Some of the lesions were covered with crusts and a slight oozing occurred when these were removed. In some parts of the patches the lesions had joined to form irregular plaques and portions of rings. According to the patient's story, none of the lesions had ever disappeared spontaneously. The patient's general condition was good and beyond some pruritus and tenderness the lesions were not especially sensitive.

This patient presented himself rather irregularly and it was not possible to study his case so carefully as the preceding one. The lesions proved resistant to many forms of treatment. At one time they seemed to be improving under the iodide of potash but this improvement soon came to a standstill. Finally freezing with solid carbon dioxide was resorted to as in the preceding case with good results, but the lesions had not entirely disappeared when the patient was last seen. Fortunately it was possible to obtain a generous amount of tissue for microscopical examination.

Histological Examination.

Case 1. The first specimen was removed on April 22, 1909, placed in Zenker's fluid and serial sections made. The most prominent features seen with a low power were an extreme hyperplasia of the epidermis, especially of the rete, and an enlargement and engorgement of the vessels of the corium. A small amount of the outer layer of horny plates was intact, with here and there a leucocyte or nucleus that had retained its power of receiving the stain. The plates of scales were loose and broken and beneath this outer layer there was seen an irregular preservation of the epithelial cells, which in some instances showed a very distinct nucleus and cell boundary; in others the cornification had gone on to a greater or less degree. The cells were forced apart in many places and there were distinct signs of œdema. In certain places a reticulation of the cells was noticeable so that small vesicles in the upper layers were sometimes seen. This condition of œdema was a striking feature throughout the whole epidermis, in greater or less degree, and explained the partially developed crusts and moist scales that were present on the surface of the lesion. The stratum granulosum was nowhere apparent in its entirety, although here and there indications were to be seen of abnormal granulations.

The whole of the rete Malpighii was increased in size, the upper layers showing strong evidence of this condition of œdema, the cells being separated in places from one another and distorted by being stretched out both laterally and longitudinally. The nuclei were usually well stained, with the exception of the "clumped nuclei" to be described hereafter. A prominent feature of the rete

appearances was the presence of very numerous mitoses of varying forms, extending from just above the basal cells to nearly the surface horny cells. These mitoses were not seen in the basal layer. A frequent change seen in the nuclei was that of the clumping just referred to. It was to be seen very prominently throughout all of the sections and occurred beginning with the cells immediately above the basal layer and extended to the upper edge of the rete. The outlines of from two to a dozen nuclei, which took the basic stain in an indistinct manner, could be seen huddled together in the remains of a much enlarged cellular space, with a clear space at the periphery. These appearances must be considered due to amitosis; and were so prominent in all the sections from every lesion examined in the case that their occurrence must be considered a characteristic feature of the affection. The most prominent feature in the corium when looked at with a low power, was the increase in size of the blood and lymph vessels. At first sight one might think that there was a true angioma present. This enlargement and dilatation of the vessels extended downward as far as the section of the skin reached, which was not, unfortunately, very deep into the subcutaneous tissue. This enlargement affected chiefly the blood vessels, but in many places a similar enlargement of lymph vessels could be made out. The vessels were filled with red blood corpuscles in most instances. In a considerable number there were numerous polynuclear leucocytes, which in a few instances nearly filled the lumina of the vessels. Corresponding to the marked œdema of the epidermis, the connective tissue of the corium was the seat of a similar change. There was a rarefaction of the collagen in the upper papillary layers, while the elastic fibres in this location were practically absent, or did not respond to the specific staining agents. The cell infiltration in the corium was quite pronounced. In general, plasma cells predominated greatly. This plasmomatous infiltration was to a considerable extent grouped about the enlarged blood and lymph vessels, but these cells were present also in moderate numbers in places where the vessels were not conspicuous. Mingled with the plasma cells were some cells of the lymphoid type and a very few mast cells, with an occasional red blood corpuscle. In one or two places where the papillæ were very œdematous and the collagen fibrils pushed far apart, a few polymorphonuclear leucocytes were seen about the vessels.

On the patient's readmittance to the hospital in April, 1910, bits of the affected tissue were excised for microscopical examination on April 5th, April 8th, and April 10th. It will be remembered that during the interval between the patient's stay in the hospital and his readmission no treatment, except the application of soothing ointments, had been observed. There was little change from the appearances described in the tissue examined the year previously. In some of the lesions the cell accumulation in the corium showed a less preponderance of plasma cells and more round lymphoid elements and fibroblasts. This was especially noted in the smaller and presumably younger lesions. In these lesions the vascular hypertrophy did not compare in degree with that seen in sections where the plasma cells were very numerous. In several of the pieces examined there was a great amount of keratosis, but it could not be determined that this was associated with an essential difference in the underlying epidermal layers, nor in the corium.

A piece excised in September, 1911, showed greater epithelial proliferation than any of the other bits examined. There were also some epithelial pearls in the epidermis. There was no sign of distinct carcinomatous formation however. In this specimen the enlargement of the vessels was not nearly so marked as in the other lesions. The plasma cells made up the bulk of the cell collection, although here and there were thick agglomerations of small round cells of the lymphoid type. In this specimen the tissue was obtained from a greater depth

than in the preceding instances, but there were no abnormal signs below the corium.

Case 2. Pieces were excised from this case for microscopical examination on June 9, 1909, and again on May 9, 1910. The piece first excised represented a small papule lying in the midst of cicatricial tissue, presumably showing the earliest beginning of the process. The limits of the papule were clearly bounded by the cicatricial tissue, the papillæ being wholly wanting. There was a marked hypertrophy of all the layers of the epidermis in the affected area, the interpapillary prolongations being increased in club-shaped masses, without, however, any signs of constriction. There was much hypertrophy of the horny layer, which was separated at the outer part into scales and lamellæ, with numerous deeply stained nuclei of the epithelial cells retained. In many places these round, deeply stained nuclei in the horny layer were surrounded by a capsule-like envelope with a clear space outside so that they recalled the modified epithelial cells found in keratosis follicularis (Darier's disease). A distinct stratum granulosum could not be made out. The rete was increased in thickness, especially in the central sections of the small lesion examined. There was a marked mitosis, seen in places throughout all the layers of the rete. The cells were enlarged, with nuclei very much swollen, but taking the stain quite clearly. The "clumping" process was very marked in this early lesion, sometimes five or six nuclear outlines being welded together in one enlarged cell. Vacuolization, as seen in Paget's disease, was present to a great extent in the upper rete layers in the centre of the lesion, and there were distinct signs of œdema in the latter cells. Often a nucleus in mitotic division was seen separated from the cytoplasm by a clear space; often two or more clumped nuclei were situated in the vacuolated cell.

The changes in the corium were confined to a moderate enlargement of the superficial vessels and to an equally moderate collection of cells about the vessels. The largest collection of cells was found in the centre of the lesion immediately below the epithelial changes. The cell infiltration was composed chiefly of small cells with a narrow rim of cytoplasm. Sometimes nothing but the deep-staining nucleus could be made out. Interspersed were some larger cells evidently of mesodermal origin and a moderate number of plasma cells. The latter were of small size, not nearly so large as those heretofore described, and none was seen containing more than one nucleus.

The lesion excised in May, 1910, was much larger and deeper than the preceding and represented an older and more developed portion. The histological appearances were so very similar to those of the more advanced lesions of Case 1 that a detailed description seems superfluous. In the epidermis the marked acanthosis, the œdema, the presence of mitosis, and of amitosis, were very apparent. In the corium the enlargement of the vessels and the presence around these structures of a cell infiltration consisting essentially of plasma cells were quite as prominent features as before. In fact the plasma cells in the immediate vicinity of the vessels were very large, often containing two nuclei. The mass about the vessels was made up practically of plasma cells, the small cells of the lymphoid type occurring in groups at a little distance. Also, the rarefaction of the connective tissue of the papillary layer was plainly seen.

Abstract.

In both of these cases the patients were males in the fifth decade of their lives. In the first case the affection had had its beginning nineteen years previous to the time when the patient was first seen; in the second case four or five years. The lesions were circum-

scribed; in the one case limited to the left gluteal region, in the other to the calf of the right leg. They appeared as papular and tubercular lesions, only slightly elevated above the normal skin, of a moderately firm consistency, and dull red in color. The surface was in some places slightly crusted; in other places it had a papillomatous character. The lesions were in places confluent, forming areas of tumor-like masses; in other places, especially at the edge of the affected areas, they were discrete, or assumed annular or serpiginous figures. Apparently the lesions never disappeared spontaneously. New lesions slowly grew at the periphery of the areas that had been treated by the curette or by freezing, and there were apparently some recurrences in the cicatrix or within its boundaries. The subjective symptoms were slight.

Histologically the lesions showed a marked proliferation of the rete Malpighii in every lesion excised. There were very numerous evidences of karyokinetic division and amitoses, with peculiar clumping of the nuclei and vacuolization of the cells. In the more advanced lesions there was an hypertrophy of the horny layer, a hyperkeratosis, and parakeratosis, with abundant evidence of cells not having undergone the process of cornification, but showing nuclei surrounded by "membranes" or by clear spaces. An œdema of all the epidermal layers was in the more advanced lesions apparent, which was sometimes so pronounced that a crust was formed at the surface.

The changes in the corium were very constant and in direct proportion to those of the epidermis. In the youngest lesion obtainable, that from Case 2, the epithelial proliferation, mitosis, "clumping" of nuclei and vacuolization, were accompanied by enlargements of the vessels in the upper cutaneous layers, which were surrounded by cell masses, of which a large proportion were of the type of plasma cells. In the deeper and more advanced lesions of both cases, the enlargement of the cutaneous vessels was very pronounced and in some places the masses of cells about the vessels were very dense and made up entirely of plasma cells. There was either an absence or great diminution in the elastic fibres in the corium of the affected territory.

Clinically the cases were most puzzling in their appearances, and the upholding of a diagnosis was a matter of much embarrassment. Apart from the course, showing great chronicity as especially emphasized in the first case, the appearances might perhaps suggest late manifestations of syphilis. Case 1 was seen by an eminent

European dermatologist, at a time when there had been no thorough microscopical study. He was strongly impressed with its syphilitic nature, and it was in deference to his impression that the patient was given the iodide of potassium, without, however, any favorable results. Certain features, such as the circinate and serpiginous arrangement of the lesions, especially those at the border of the patch, might call to mind those observed in mycosis fungoides, yet it has been seen that in most other respects these cases differed widely from any of the manifestations of this disease. The question arose as to the possible connection of the very numerous angiomata that were scattered over the body in the first case with the pathological process in question. Could there possibly be a congenital origin of all these neoplasms? In the case in question the process had first appeared twenty years previously and had always remained in the same circumscribed territory, the fresh appearances always showing themselves within the area previously affected, or at its edges. In this respect there was a certain analogy with the rare affection that has been called angioma serpiginosum, in which small neoplasms of a structure resembling angio-sarcoma reappear in a circumscribed area after removal by destruction, and at the edges of the original territory.

It will be seen that the most striking histological abnormality in these cases lies in the epithelial changes. The connective-tissue changes are present it is true in the smallest and supposedly youngest lesions examined, but they are of less striking individuality than the epithelial. In drawing an analogy, histologically, the various affections that were enumerated at the beginning of this paper as precancerous dermatoses are the only ones that can be considered.

Paget's Disease of the Nipple. This disease has been admittedly more frequently studied than most other affections that occur so rarely. The literature of the subject is well known and has been so frequently cited that I shall speak only of one or two points that are pertinent to the general subject. With regard to the clinical appearances, the cases I am reporting resembled Paget's disease in very few respects. At the outset, this affection would not even have been thought of. At no time was there any oozing, exposed or weeping surface. The lesions were more organized and solid, the only symptoms of exudation being expressed by the rather moist crusts and scales that covered the surface. The circinate and polycyclical outlines at the borders of the area affected might indeed be considered similar to those seen in Paget's disease, as well as the long

duration. The cases of extramammary Paget's disease that have been reported showed, all of them, a strong clinical resemblance to the affection in the breast, but it may be questioned whether all of the cases so reported belong in this category. Nevertheless, in many there seems sufficient evidence to warrant their classification as extramammary Paget's disease. Among these may be mentioned Pick's cases of Paget's disease of the glans penis (*Deutsche medizinische* Zeitung, Nov. 5, 1891), in which the appearances of a persistent eczema gradually merged into a tendency to the growth of epithelium with nodular formations. Excision of the growth showed cancerous structure. Also Shield's case of malignant dermatitis with development of carcinoma over the skin of the pubes (*Pathological Society Transactions*, 1897, xlviii, p. 211) represented an eczema of eight years' duration, which assumed the appearance of a glazed, raw patch, granulating in places, with the skin thickened and infiltrated. Tumors formed on this surface which were firm and looked like malignant disease, and bore a close resemblance to some of the lesions of mycosis fungoides. Microscopically the growths were found to be epitheliomata. Crocker's case of Paget's disease of the scrotum (*Pathological Society Transactions*, 1888, No. 6), offers, through the colored illustration that accompanies it, a decided clinical similarity to Paget's disease of the nipple with its superficial, ulcerated, easily bleeding surface, with well-defined borders, enclosing here and there pearly white islets where the epidermis has escaped destruction, and accompanied by a constantly oozing, serous discharge. Nodules that appeared within this area showed a cancerous structure, and the epithelial growth was shown to arise from the sweat glands and ducts. Fox and MacLeod (*British Journal of Dermatology*, 1904) report a case of Paget's disease of the umbilicus. Fordyce's case of Paget's disease (?) of the gluteal region (*Journal of Cutaneous Diseases*, 1905, p. 193) is of especial interest in this connection on account of the situation of the affection, which was identical with that of Case I. In clinical appearances it was quite like Paget's disease and many of the histological features corresponded to those of typical Paget's disease, notably the œdematous swelling of the prickle cells and the presence of plasma and mast cells. Against the histological diagnosis of Paget's disease were the absence of marked pseudo-coccidia in the epidermis and the presence of marked proliferation in the centre of the patch of a rodent-ulcer type. Hartzell's case (*Journal of Cutaneous Diseases*, Aug., 1910) occurred on the outer side of the left forearm in a man of sixty-four

and was interesting from the fact that the carcinomatous degeneration of a nævus apparently preceded the appearance of Paget's disease. The histological features were fairly typical of Paget's disease.

Clinically, only a remote resemblance to Paget's disease can be claimed for the cases I am reporting. Histologically, the resemblance is much more close. In the cases reported, it will be seen that an atypical epithelial proliferation was present, accompanied by mitotic figures and amitotic representations and degenerations. The bodies erroneously regarded at one time by Darier and Wickham as psorosperms, and since proved to be due to irregular cornifications and degenerations of epithelial cells, have been shown to be quite characteristic of Paget's disease, although their specific nature has long since been disproved. These bodies were first described as psorosperms by Darier in so-called "Darier's disease" (keratosis follicularis), and it was first shown by the writer that they contained kerato-hyaline granules, in that respect differing from every known form of protozoa, and for this reason their epithelial nature was considered established. In most cases of Paget's disease of the nipple these double-contoured cells are seen in considerable numbers; in many other cases, the forms are different, and vacuolated cells with the nucleus lying at one edge of a cavity representing the degenerated protoplasm, are very prominent. Such cells were frequently seen in the two cases reported, although these types of double-contoured cells and of vacuolated cells were not so numerous as I have seen them in cases of Paget's disease of the nipple.

Ribbert, in his latest book on carcinoma[1] considers that it has been definitely proved by the work of Jacobaeus[2] that the so-called Paget's cells are gland cells that have wandered into the epidermis from the low lying tissue. While this view is favored by many circumstances, especially by the fact that very few of the cancers in Paget's disease can be shown to be derived from the epidermis, it is difficult to explain in this way the earlier forms present in Paget's disease, and the fact that these cell appearances or changes are present when the affection has existed for years without the slightest evidence of carcinoma anywhere.

The peculiar clumping of the nuclei has been seen by Fordyce in tissue from the edge of a case of extramammary Paget's disease.

[1] *Das Wachstum des Karzinoms,* Bonn, 1911.

[2] *Virchow's Archiv,* p. 178, 1904.

As regards the changes in the corium; enlarged vessels and a cellular infiltration about these vessels, the cell masses containing in many cases a large number of plasma cells, are common in both Paget's disease and in the reported cases.

Roentgen-Ray Dermatitis. The studies in this subject are well known to all dermatologists. Hyperkeratosis, epithelial hypertrophy, ulceration and telangiectases are constant features. Of interest in connection with the formation of telangiectases, which is common to this form of precancerous keratosis and to xeroderma pigmentosum, may be noted the small angiomata that were scattered in profusion over the body in Case 1. Vascular changes in the corium and deeper parts have been repeatedly observed in X-ray dermatitis.[1] This fits in well with the theory of Ribbert and Wyss, that connective-tissue changes occur previous to the development of malignant epithelial growths. The epithelial changes show a hyperkeratosis and an abnormal proliferation of the rete cells. Changes similar to those described in the two cases here reported have been observed in the epithelial cells, and generally regarded as degenerative forms or due to anomalies of cornification. Wolbach says: "The finding in the epidermis of cells with extraordinarily large nuclei with evidences of direct division into several smaller nuclei, was of frequent occurrence. Such cells are most often in small down-growths or in compact masses of cells inserted in the basal layers."

Xeroderma Pigmentosum. The similarity of the early cutaneous changes in this affection to those seen in keratosis senilis and in Roentgen-ray dermatitis has often been referred to. Fordyce[2] produces a photomicrograph of a warty growth in this disease that shows an hypertrophied horny layer and rete. "Many cells of the latter show degenerative changes, are vesicular and have large deeply-staining nuclei. The corium is degenerated and dense infiltration occupies the upper layers of the cutis in close juxtaposition to the epidermis." Hyaline degeneration was a marked feature of the rete cells.

Keratosis Senilis (Keratoma Senile). Dubreuilh in 1896[3] commented on the fact that this condition, although of very great frequency, had been little studied; and Hartzell, in his paper on

[1] Wolbach, Histology of Chronic X-ray Dermatitis, *Jour. Med. Res.*, 1909, xxi.

[2] The Pathology of Malignant Epithelial Growths of the Skin. *Jour. Am. Med. Assn.*, Nov. 5, 1910.

[3] *Ann. de dermat. et de syph.*

precancerous affections,[1] makes the same remark. This may be regarded as singular in view of the fact that it is *the* precancerous dermatosis par excellence, and of daily occurrence. Dubreuilh's investigations showed that the histological features of keratosis follicularis (Darier's disease) were strikingly similar to those of keratosis senilis. Although the intradermic corpuscles that were erroneously regarded by Darier as psorosperms occur in keratosis follicularis in greater numbers and with greater constancy than in any other affection, yet "in keratosis senilis at the beginning of its transformation into epithelioma are seen many analogous bodies." They are even more numerous in this stage of transition than in the fully developed epithelioma.

Hartzell, who studied material derived from five patients, in all of whom the keratosis was allied with epithelioma, found in all a marked increase in thickness of the horny layer, with nuclei retaining their stain; disappearance in great part of the granular layer; and considerable variation in the amount of alteration of the rete, there being in the newer lesions only a slight increase in width of this layer although "there was always evidence of increased cell-activity in the basal cells, such as numerous dividing cells and multiplication of nuclei." Hartzell further found changes in and around the coil glands so constantly that he was led to think that these structures played an important part in keratosis senilis.

Fordyce[2] describes his findings in two cases. One from the cheek of a man of sixty showed a thickened horny layer, with nuclei fairly well preserved, and horny plugs that distended the mouths of the pilosebaceous apparatus. The rete was irregularly thickened and thinned, and had areas of degeneration which stained badly and contained vacuoles. There was a degeneration of the connective tissue of the upper corium, its fibrillary character was lost and it had a homogeneous appearance. Another case exhibited under the low power a striking resemblance to the warts seen in xeroderma pigmentosum. "The higher power showed principally the degenerative changes in the cells. From hyaline and hydropic changes they had become voluminous, lost their prickles, and assumed a more or less rounded form with a well-defined periphery, as though encapsulated. In the older portions they had become confluent and their outlines were no longer visible. The nuclei in many had entirely disappeared or only shrunken bits of chromatin remained, surrounded by a clear

[1] *Loc. cit.*

[2] *Loc. cit.*

space, or were connected with the cell by radiating protoplasmic threads. In addition free cells were found, appearing as spheres of hyalin with a dense nucleus and a vacuole. The connective tissue beneath the wart, and especially on either side of it, was degenerated and rarefied."

Arsenical Keratosis offers histologically many points of resemblance with my two cases. Fordyce's[1] investigations of the case of a man who had taken Fowler's solution for five years, showed in sections from the warty lesions "a thickened horny layer dipping down into the rete, producing a marked undulatory line between the two. In some of the layers the nuclei are well preserved; in others as the result of dyskeratosis there are large ballooned bodies which appear like double contoured organisms. The granular layer has almost entirely disappeared, the horny layer proceeding directly from the Malpighian layer. In the latter the points of interest are acanthosis and œdema, causing a widening of the intercellular spaces. Here and there the cells have disintegrated, their remains lying in cystic spaces, or several have fused to produce large, deeply-staining, irregular bodies connected by cytoplasmic threads to the surrounding cells. Nuclear degeneration is as common as cytoplasmic. Some of the cells contain central clumps of chromatin; in others it is dispersed through the cell, and a further sign of degeneration is the presence of *clumped nuclei*, due probably to amitotic division. The basal layer is disorganized at points where the corium is more or less rarefied."

In a case of arsenical keratosis from the back of the left hand taken from a patient who had been given arsenic continuously for two years, I found a hypertrophy of all the epidermal layers, the granular and horny layers being much increased in thickness. The rete was hypertrophied and contained numerous mitotic figures, with an irregular vacuolization of the rete cells. There was also hyaline degeneration, drops brightly stained by eosin being seen in these cells. There was evidence of œdema in the rete, for the cells were separated and pulled out longitudinally. In the centre of the lesion club-shaped intrusions of rete plugs into the corium were very marked. In these club-shaped rete plugs the epithelial cells were enlarged with deeply staining nuclei. At this point the mitoses were most numerous. In many places two connected nuclei could be seen, evidently in process of amitotic division. "Clumping" of nuclei was seen here and there, as in the two cases reported above, but in this

[1] *Loc. cit.*

PLATE XIV.—To Illustrate Article by Dr. John T. Bowen.

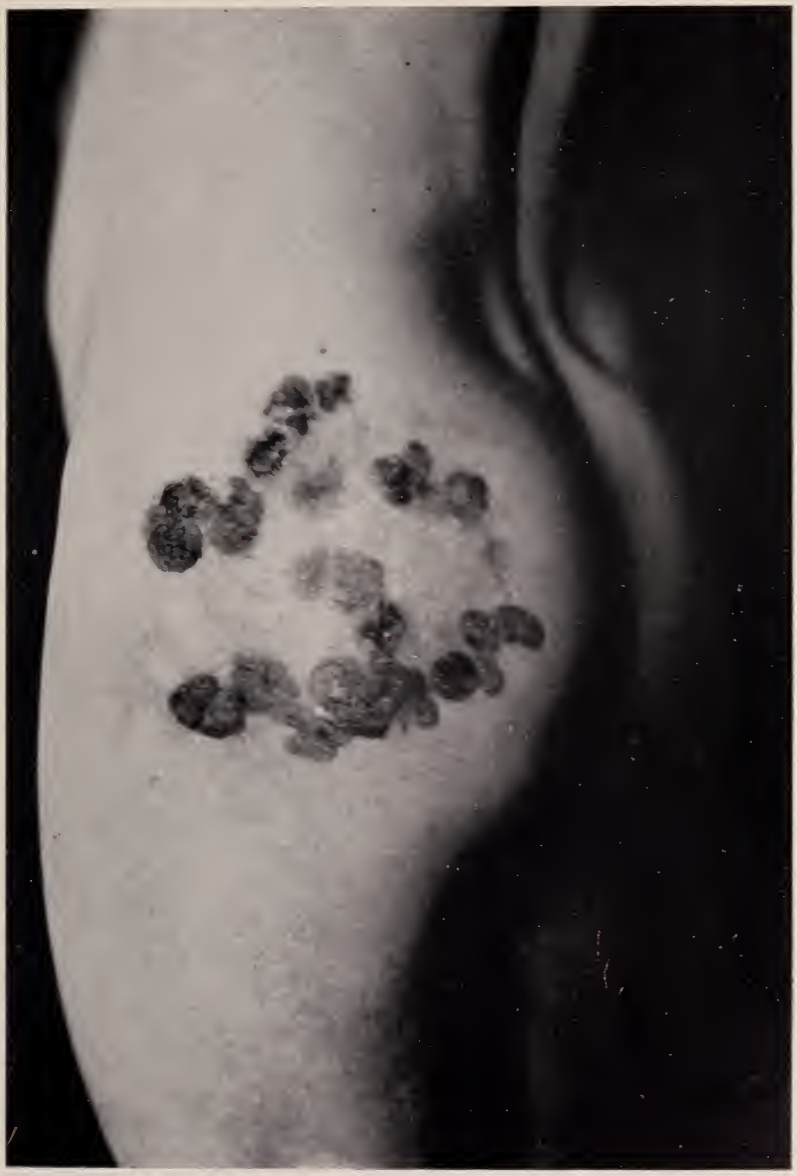


Fig. 1. Case 1.

Precancerous Dermatoses.

Fig. 2. Case 1.

Fig. 3. Case 1.

Precancerous Dermatoses.

Fig. 4. Case 2.

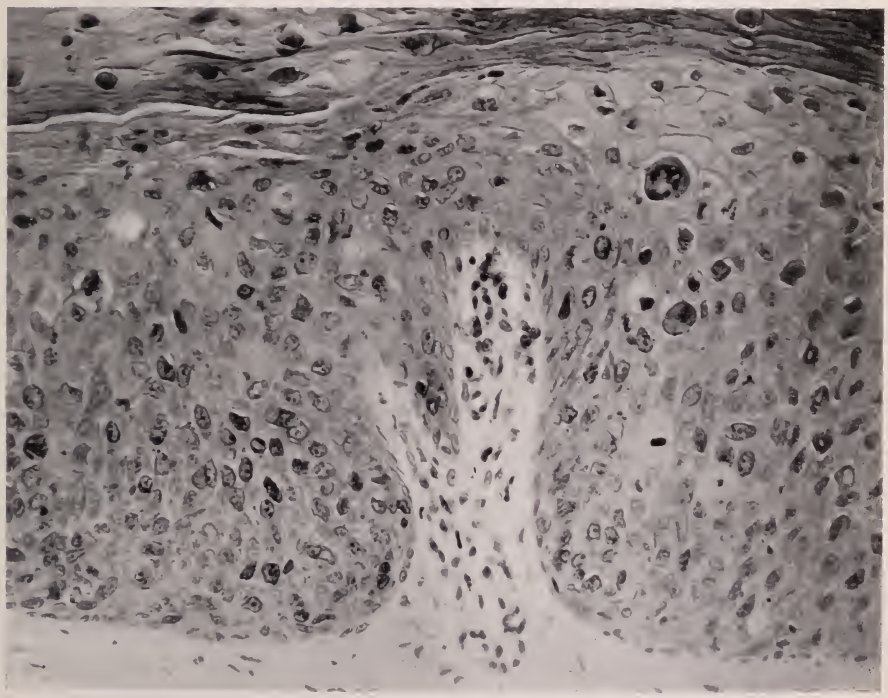


Fig. 5. Case 2.

Precancerous Dermatoses.

case of arsenical keratosis the clumped nuclei were better outlined and took the stain better, the chromatin was more prominent, and they did not seem to have undergone so much degeneration. In the corium there was a moderate dilatation of the vessels of the upper layers, composed mostly of round (lymphoid) cells, and fibroblasts. The round cells were mostly collected in masses in the centre of the lesions.

With regard to Darier's disease (Psorospermose folliculaire végétante, keratosis follicularis), the well-known psorosperm-like bodies have been proved to be epithelial cells which have undergone a partial keratinization, and it has been shown further that such appearances occur in various other conditions. These cell forms and those found in Paget's disease, while not distinctive are usually associated with the precancerous conditions or with true cancerous growths, so that their appearance would always lead to the thought of a present or impending malignant tendency.

Wende's[1] case illustrates, what has long been expected, that these lesions may readily assume a malignant type of cell growth.

The similarity, therefore, of the two cases that I am reporting to the various precancerous dermatoses is very evident. In just which category they should be placed is not so clear. It has been seen that they present, apart from their marked hyperkeratosis, many points of resemblance with Paget's disease, histologically, while offering few points of clinical similarity. Again, they show many analogies to arsenical keratosis and to keratosis senilis, as well as some similarity to xeroderma pigmentosum, all of which conditions are frequently the starting point of cancer. As yet no signs of malignancy have appeared in these cases. It can hardly be doubted that such a sequel is imminent.

Explanation of Figures.

Plate XIV. Fig. 1. Case 1 as it appeared in October, 1911. The cicatricial portions mark the site of lesions previously removed.

Plate XV. Fig. 2. From Case 1. Low power shows hyperkeratosis, proliferation and thickening of rete, vacuolization and abnormal cornification of cells; dilatation of vessels of corium, with cell masses surrounding them.
Fig. 3. From Case 1. High power. Shows peculiar "clumping" of nuclei and karyokinesis.

Plate XVI. Fig. 4. From Case 2. Low power. A very small beginning lesion showing epithelial hypertrophy, hyperkeratosis and vacuolization of cells.
Fig. 5. From Case 2. High power. Shows abnormal transformation and cornification of rete cells, karyokinesis, etc.

[1] *Jour. Cutan. Dis.*, Dec., 1908.

A REPORT OF THE WASSERMANN REACTION IN SIXTY-ONE CASES OF SYPHILIS TREATED WITH SALVARSAN.*

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WE thought it would probably be of interest to submit the Wassermann findings in the following cases of syphilis, after their treatment with salvarsan. We had collected over a hundred cases of syphilis thus treated, but on account of the possible inaccuracy of some of the Wassermann tests, thirty-nine were thrown out. These are not selected cases, but are the first hundred in which we used salvarsan. The reactions were taken at various times after the administration of the remedy. We thought it best to give a brief outline of each case and merely submit the summary of the Wassermann findings.

Case 1. Tertiary Syphilis. W. Q. M. W., age, 22; date, June 11, 1910. The patient had a chancre in 1907. He was treated for a short while at time of infection; thereafter, only when lesions were present. Upon entering the hospital he had a large, ulcerated, tubercular syphilide involving the upper two-thirds of the right forearm; another on the lower one-third of the right leg seven inches in diameter. There was, also, a large ulcerated area on the left nostril the size of a dime and numerous healed lesions on both legs. He was given daily injections of bichloride of mercury for ten days. The lesions on the forearm increased in size; he was then given salicylate of mercury injections bi-weekly, with various antiseptic dressings, also iodides, with only fair result. The lesions showed some tendency to heal, but only for a time. On Oct 5, 1910, the Wassermann reaction was positive. On Oct. 5, 1910, he was given 0.6 gm. of salvarsan by the Wechselmann method. On Oct. 30, 1910, a marked improvement was noted in all the lesions. The ulceration on the nose was almost healed; the ulceration on the leg showed healthy granulations. The physical condition was wonderfully improved. The Wassermann; however, was still positive. On Nov. 1, 1910, the lesions were all healed and the Wassermann was negative. On Jan. 15, 1911, the Wassermann was still negative.

Case 2. Tertiary Syphilis. K. W. F. W.; age, 25; date, Aug. 5, 1909. There was no history of a primary lesion. Upon entering the hospital there was a large ulceration on the nose with destruction of the ala. The lower lip was ulcerated and contracted. He was treated at intervals from Aug. 3, 1909, to Oct. 25, 1910, with bichloride and salicylate of mercury injections, also iodide of potash internally, with only fair result. On Oct. 25, 1910, the Wassermann reaction was positive. The patient was given 0.6 gm. of salvarsan according to the Wechselmann method. He complained of some pain the following day, otherwise there

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

were no unusual symptoms. On Nov. 26, 1910, the ulceration on the nose and lip had improved greatly, but the edges of the nose lesion looked active and appeared to be epitheliomatous. A piece of tissue was excised and examined microscopically and the diagnosis of epithelioma was confirmed. On Jan. 20, 1911, the skin lesion and some necrosed bone were removed. On March 21, 1911, 0.4 gm. of salvarsan in 400 cc. of water (alkaline solution) was injected into a vein of the left arm. On March 25, 1911, the Wassermann was negative.

Case 3. Tertiary Syphilis; M. D. F. W.; age, 26; date, Jan. 11, 1911. The superior maxilla and nasal bones were more or less necrotic. The palate showed healed cicatrices; the upper teeth were very loose. The lesions did not respond to any great extent to mercury and iodide treatment. Jan. 26, 1911, Wassermann +++. On Jan. 27, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. On Feb. 2, 1911, the buttock was very painful. Three days later the buttock was indurated. March 25, 1911, Wassermann +++.

Case 4. Tertiary Syphilis. C. F. M. W.; age, 25; date, Oct. 24, 1910. There was a chancre eighteen months ago, followed by a typical onychia of all the nails and ulceration of the throat. On Dec. 24, 1910, the nails were almost well as the result of "mixed treatment." He entered the hospital on Feb. 22, 1911. Feb. 23, 1911, Wassermann ++++. On Feb. 26, 1911, 0.6 gm. of salvarsan was administered by the Junkermann method. On March 2, 1911, the ulceration of the throat was much improved and the Wassermann reaction showed ++++.

Case 5. Secondary Syphilis. E. G. M. W.; age, 29; date, Nov. 19, 1910. The patient developed a chancre four months ago and was given 0.6 gm. of salvarsan five weeks ago at the City Hospital. Jan. 7, 1911, Wassermann positive. On Jan. 9, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 6, 1911 Wassermann ++++. On Feb. 21, 1911, "mixed treatment" was instituted. March 19, 1911, Wassermann +++.

Case 6. Primary and Secondary Syphilis. L. B. M. W.; age, 57; date, Dec. 23, 1910. The patient had a primary lesion on the glans penis and a maculopapular secondary over the entire body. On Dec. 25, 1910, the Wassermann was positive. On Dec. 26, 1910, 0.6 gm. of salvarsan was administered according to the Junkermann method. Feb. 1, 1911, Wassermann ++. March 3, 1911, Wassermann ++++.

Case 7. Tertiary Syphilis. W. J. M. W.; age, 29, date, Dec. 24, 1910. The patient had a chancre six years ago, followed by secondaries. Feb. 4, 1911, Wassermann +++. On Feb. 8, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 24, 1911, Wassermann +++. The patient left the hospital against advice.

Case 8. Tertiary Syphilis. P. C. M. W.; age, 20; date, Dec. 27, 1910. The patient had a primary lesion on the glans penis eight months ago, followed by secondaries which cleared up under internal treatment in two weeks. When he entered the hospital he had an ulcerated throat. He was given "mixed treatment" until Jan. 24, 1911. On Jan. 25, 1911, the Wassermann was positive. On Jan. 27, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. March 25, 1911, Wassermann+—.

Case 9. Tertiary Syphilis. A. O. M. W.; age, 28; date, Dec. 30, 1910. The patient presented circinate lesions with elevated tubercles at the borders, generalized and worse on the face and lower extremities. His weight was 132 lbs. On Jan. 7, 1911, the Wassermann was positive. On Jan. 11, 1911, 0.6 gm. of salvarsan were given by the Junkermann method. Improvement was marked at first, but the lesions did not entirely heal. Feb. 1, 1911, Wassermann +++. On March 9, 1911, 0.28 gm. of salvarsan in 140 cc. of water (alkaline solution) was injected in a vein of the left arm. March 14, 1911, Wassermann +++. On March 27, 1911, the lesions healed; the weight was 176 lbs. March 29, 1911,

Wassermann +++; weight, 180 lbs. The Wassermann reactions in this case were conducted by Dr. J. MacChildon.

Case 10. Tertiary Syphilis. E. T. M. W.; age, 47; date, Jan. 9, 1911. The patient presented a large tubercular lesion on the right side of the tongue, which was the size of a dime. Jan. 23, 1911, Wassermann ++++. On Jan. 24, 1911, 0.4 gm. of salvarsan was administered by the Junkermann method.

Case 11. Tertiary Syphilis. F. K. M. W.; age, 36; date, Jan. 14, 1911. The patient had a tubercular ulceration with perforation of the lobe of the right ear. The destructive process gradually extended over the entire ear. There was also an ulcerative lesion of the nose. Jan. 23, 1911, Wassermann ++++. On Jan. 24, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 1, 1911, Wassermann ++++. On March 9, 1911, 0.18 gm. of salvarsan in 90 cc. of water (alkaline solution) was administered intravenously. March 14, 1911, Wassermann +++.

Case 12. Tertiary Syphilis. O. D. M. W.; age, 37; date, Jan. 23, 1911. There was an ulcerative tubercular lesion at the right side of the nose which was the size of a nickel. Jan. 25, 1911, Wassermann ++++. On Jan. 27, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. March 22, 1911, Wassermann +++. April 8, 1911, Wassermann +++.

Case 13. Secondary Syphilis. M. S. M. W.; age, 38; date, Jan. 27, 1911. There was a generalized macular eruption over the entire body, with numerous mucous patches on the soft palate and buccal surfaces of the cheeks. There was a scar, the remains of a healed lesion on the glans penis. Feb. 1, 1911, Wassermann ++++. On Feb. 2, 1911, 0.75 gm. of salvarsan was given by the Junkermann method. Forty-eight hours after this injection the skin lesions had faded perceptibly. Feb. 4, 1911, Wassermann +++.

Case 14. Tertiary Syphilis. B. S. F. W.; age, 35; date, Jan. 31, 1911. There was no history of a primary sclerosis. Feb. 3, 1911, Wassermann ++++. On Feb. 4, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. April 8, 1911, Wassermann +++.

Case 15. Tertiary Syphilis. J. A. F. W.; age, 39; date, Feb. 7, 1911. The patient had mucous patches in the mouth and throat. Feb. 10, 1911, Wassermann ++. On Feb. 19, 1911, 0.52 gm. of salvarsan was administered according to the Junkermann method. On Feb. 25, 1911, the throat and mouth lesions were healed. April 4, 1911, Wassermann +—.

Case 16. Tertiary Syphilis. N. M. T. W.; age, 28; date, Feb. 11, 1911. The patient was infected thirteen years ago. He had hemiplegia of the left side in 1908 and again in 1909. When he entered the hospital he was suffering with severe pains in the left forearm. He had a typical hemiplegic gait and considerable difficulty in using the left arm. Feb. 23, 1911, Wassermann +++. On March 2, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On March 18, 1911, 0.34 gm. of salvarsan dissolved in 120 cc. of water (alkaline solution) was injected into a vein of the left arm. On March 22, 1911, there was some improvement in the gait and the patient had better control of the arm. The Wassermann was ++.

Case 17. Tertiary Syphilis. R. McC. M. W.; age, 33; date, Feb. 15, 1911. Five months before entering the hospital ulcers appeared on the arms and legs. Feb. 15, 1911, Wassermann ++++. On Feb. 19, 1911, 0.68 gm. of salvarsan was administered according to the Junkermann method. On Feb. 26, 1911, the ulcers were rapidly healing and there had been a gain of eleven pounds in weight in nine days. On March 8, 1911, 0.22 gm. of salvarsan dissolved in 100 cc. of water (alkaline solution) was administered intravenously. March 7, 1911, Wassermann +++. The patient's general condition was very good. The ulcer in the mouth had healed and there was a gain of sixteen pounds.

Case 18. Secondary Syphilis. R. A. M. W.; age, 30; date, Feb. 13, 1911. There was a maculo-papulo-tubercular eruption distributed over the entire body. Feb. 20, 1911, Wassermann ++++. On Feb. 21, 1911, 0.56 gm. of salvarsan was given by the Junkermann method. On Feb. 22, 1911, the eruption on the face was rapidly fading. March 8, 1911, Wassermann +++.

Case 19. Secondary Syphilis. T. G. M. W.; age, 28; date, Feb. 20, 1911. There was a generalized maculo-papulo-tubercular eruption with mucous patches of the tongue. The primary lesions had healed. Feb. 20, 1911, Wassermann ++++. On Feb. 26, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On March 2, 1911, the eruption on the face and body was rapidly fading. April 15, 1911, Wassermann —.

Case 20. Tertiary Syphilis. G. C. M. W.; age, 24; date, March 1, 1911. This patient had a malignant, destructive, tubercular syphilis. The Wassermann was ++++. On March 5, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On March 8, 1911, the lesions showed signs of healing. On March 11, 1911, the ulcers had almost healed; the Wassermann was +++.

Case 21. Tertiary Syphilis. J. P. F. W.; age, 43; date, March 3, 1911. The patient presented ulcerative lesions on the right side of the forehead one inch in diameter; the Wassermann was ++++. On March 13, 1911, 0.3 gm. of salvarsan in 150 cc. of water (alkaline solution) was injected into a vein of the left arm. On March 20, 1911, the lesions showed marked improvement. April 1, 1911, Wassermann ++++.

Case 22. Secondary Syphilis. M. W. M. W.; age, 21; date, March 9, 1911. There was a generalized papulo-maculo-squamous eruption. The infection occurred four months ago. March 9, 1911, Wassermann ++++. On March 12, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. March 14, 1911, Wassermann ++++. On March 20, 1911, the eruption was fading. On April 5, 1911, a daily injection of bichloride of mercury was begun. On April 12, 1911, Wassermann +++. On April 18, 1911, beginning ptyalism was noticed and the bichloride injections were discontinued. April 19, 1911, Wassermann ++. May 8, 1911, Wassermann —.

Case 23. Tertiary Syphilis. C. R. M. W.; age, 29; date, March 19, 1911. There were ulcerative lesions involving the entire lower lip. April 8, 1911, Wassermann +++. On this date 0.55 gm. of salvarsan in 150 cc. of water (alkaline solution) was intravenously administered. On April 14, 1911, the lips showed marked improvement. April 20, 1911, Wassermann +++. May 16, 1911, Wassermann +++.

Case 24. Primary and Secondary Syphilis. J. S. M. W.; age, 20; date, March 17, 1911. This patient had an excoriated area about the size of a quarter on the upper lip. This lesion was associated with considerable induration and the submaxillary and cervical glands were greatly enlarged. There was, in addition, a generalized macular eruption. On March 21, 1911, 0.5 gm. of salvarsan in 60 cc. of water (alkaline solution) was injected into a vein of the left arm. On March 26, 1911, there were considerable reaction and shock. For a short time the temperature registered 101° F., while the pulse was 104 and there were headache and vomiting. All these symptoms were easily controlled by the use of ¼ gr. of morphine. On this date the chancre appeared to be larger and somewhat more inflamed. On March 29, 1911, there was a maculo-papular-eruption over the trunk and extremities. On April 1, 1911, injections of bichloride of mercury were begun. The Wassermann was ++++. On April 4, 1911, the chancre was rapidly decreasing in size. On April 10, 1911, the secondaries were involuting. April 20, 1911, Wassermann +++. On April 25, 1911, 0.6 gm. of salvarsan was administered by the Junkermann method. May 11, 1911, Wassermann —.

Case 25. Tertiary Syphilis. E. R. M. W.; age, 24; date, March 21, 1911. There was an ulcerative lesion on the hard palate. On March 26, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. April 5, 1911, Wassermann +++. On April 6, 1911, the lesion was much improved. On March 20, 1911, "mixed treatment" was begun. March 27, 1911, Wassermann +++.

Case 26. Secondary Syphilis. N. G. F. W.; age, 20; date, March 22, 1911. There was a generalized maculo-papular eruption which was particularly profuse on the face. The patient presented, also, a conjunctivitis and an iritis of the right eye. March 30, 1911, Wassermann ++++. On this date 0.55 gm. of salvarsan in 220 cc. of water (alkaline solution) was intravenously administered. On April 2, 1911, there was a decided improvement in the condition of the right eye, which was noticed in twenty-four hours after the injection. The skin lesions were fading. On April 6, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On April 8, 1911, the lesions were rapidly involuting. On April 12, 1911, the eruption had entirely disappeared and the Wassermann reaction was ++++. May 1, 1911, Wassermann ++++. May 15, 1911, Wassermann +++.

Case 27. Tertiary Syphilis. G. M. M. W.; age, 22; date, April 6, 1911. The patient presented ulcerations of the soft palate and tongue. The Wassermann was +. On April 8, 1911, 0.55 gm. of salvarsan in 220 cc. of water (alkaline solution) was intravenously administered, which was followed by very little reaction. On April 14, 1911, the lesions were slowly healing. On April 17, 1911, injections of bichloride of mercury were begun. May 8, 1911, Wassermann —.

Case 28. Secondary Syphilis. W. S. M. W.; age, 26; date, Feb. 18, 1911. This patient had had a macular eruption which had been treated with inunctions for five weeks, in spite of which the lesions had not healed. Salvarsan had been administered by Wechselmann in Berlin on August 3, 1910, after which the lesions promptly healed. He was given another injection of salvarsan by Dr. Pollitzer of New York. A Wassermann reaction in October, after the second injection, proved to be negative. It was again positive, however, in the middle of November and new lesions had appeared. Dr. Pollitzer then gave another injection of salvarsan, after which the lesions promptly disappeared. Feb. 18, 1911, Wassermann +-+. May 16, 1911, Wassermann +++.

Case 29. Tertiary Syphilis. L. M. M. W.; age, 48; date, April 29, 1911. There was a large, irregular, ulcerated lesion involving the entire right side of the trunk. May 1, 1911, Wassermann +++. On May 11, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. May 11, 1911, Wassermann —.

Case 30. Syphilis? E. B. M. W.; age, 31; date, May 4, 1911. This patient had a possible cerebral syphilis. May 4, 1911, Wassermann —. On May 8, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. May 11, 1911, Wassermann —.

Case 31. Tertiary Syphilis. M. M. F. W.; age, 22; date, April 18, 1911. There was a generalized papulo-squamous eruption. He was given injections of bichloride of mercury until April 26, 1911. On April 27, 1911, the Wassermann was ++++. On April 28, 1911, 0.6 gm. of salvarsan in 220 cc. of water (alkaline solution) was injected into a vein of the left arm. On April 30, 1911, the eruption had faded. May 6, 1911, Wassermann ++++. May 17, 1911, Wassermann ++++.

Case 32. B. S. F. W.; age, 24; date, May 8, 1911. There was a generalized tubercular eruption with lesions on both tonsils and on the pillars of the fauces. May 10, 1911, Wassermann ++++. On May 11, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. May 19, 1911, Wassermann ++++.

Case 33. Secondary Syphilis. F. S. F. W.; age, 25; date, April 15, 1911. The patient exhibited a generalized macular eruption. He received injections of

bichloride of mercury until April 19, 1911. April 20, 1911, Wassermann +++. On April 25, 1911, 0.6 gm. of salvarsan in 200 cc. of water (alkaline solution) was administered intravenously. On April 29, 1911, the eruption was fading. May 11, 1911, Wassermann ++.

Case 34. Tertiary Syphilis. J. D. M. W.; age, 23; date, Feb. 25, 1911. The patient had received mercurial treatment for three years. March 4, 1911, Wassermann -++. On March 13, 1911, he received 0.6 gm. of salvarsan by the Junkermann method. March 8, 1911, Wassermann +—.

Case 35. Secondary Syphilis. J. M. M. W.; age, 31; date, Dec. 21, 1910. The patient had had three years of vigorous anti-syphilitic treatment. When he entered the hospital he presented mucous patches on the tongue and numerous scars on the arms and legs, the result of former lesions. On Dec. 28, 1910, the Wassermann was positive. On Jan. 14, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On March 3, 1911, the lesions had healed. March 14, 1911, Wassermann +. May 16, 1911, Wassermann ——.

Case 36. Tertiary Syphilis. I. B. M. W.; age, 38; date, Oct. 26, 1910. About one year ago a small ulcer appeared on the left ala of the nose, which increased in size until the entire left side of the nose was ulcerated. On Oct. 24, 1910, the Wassermann was positive. On Oct. 27, 1910, 0.6 gm. of salvarsan was given by the Wechselmann method. On Nov. 2, 1910, the lesion showed no change. On Nov. 8, 1910, the lesion was slowly enlarging. The patient was then placed on bichloride of mercury injections. On Nov. 28, 1910, the Wassermann was positive. On Nov. 29, 1910, 0.6 gm. of salvarsan was administered by the Junkermann method. On Dec. 27, 1910, the lesion was healing. On Dec. 28, 1910, the Wassermann was positive. On Jan. 8, 1911, the lesions were healed. On Feb. 2, 1911, the Wassermann was positive. On April 5, 1911, new lesions appeared on the nose and in the throat. The Wassermann was positive. On April 25, 1911, 0.6 gm. of salvarsan were given by the Junkermann method. On April 27, 1911, there was no change in the condition of the lesions. The patient was again placed on injections of bichloride of mercury.

Case 37. Secondary Syphilis. C. A. M. W.; age, 28; date, March 17, 1911. The patient had a chancre last May, followed by secondaries. He received treatment for nine months. On March 31, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. May 15, 1911, Wassermann —.

Case 38. Tertiary Syphilis. G. R. M. W.; age, 25; date, May 23, 1910. The patient had a chancre in 1903. This healed in two months under local treatment. There was no history of secondaries. On July 19, 1910, he complained of lightning pains in the legs. On Nov. 19, 1910, he had muscular twitching, especially in the muscles of the thigh and lower leg. He never noticed any irregularities with reference to equilibrium. He had severe headache. On Dec. 1, 1910, the Wassermann was positive. On Dec. 5, 1910, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 26, 1911, Wassermann —.

Case 39. Tertiary Syphilis. H. H. M. H.; age, 27; date, Nov. 2, 1910. Eighteen months ago, the patient noticed an eruption on the palmar surfaces of both thumbs. Two months ago, he developed an eruption in the sacral region and a few weeks later, lesions appeared on the nose and chin. On Nov. 28, 1910, 0.6 gm. of salvarsan was given by the Junkermann method. Dec. 6, 1910, Wassermann ++. Dec. 17, 1910, Wassermann +. Jan. 3, 1911, Wassermann +. Jan. 24, 1911, Wassermann —.

Case 40. Tertiary Syphilis. P. W. M. W.; age, 19; date, Nov. 7, 1910. There were mucous patches on the tonsils and tongue and a cervical and inguinal adenitis. On Dec. 22, 1910, the mucous patches had extended to the soft palate and uvula. On Jan. 3, 1911, the Wassermann was positive. On Jan. 4, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. On

Jan. 5, 1911, the buccal lesions were much improved. On Jan 12, 1911, the lesions were healed. On Jan. 15, 1911, the Wassermann was positive.

Case 41. Secondary Syphilis. E. D. M. W.; age, 19; date, March 14, 1911. The patient exhibited a late secondary eruption on the body and ulcerated lesions on the tongue. He was given injections of the bichloride of mercury. On March 24, 1911, the ulcers had increased in size. On May 2, 1911, he had mucous patches on the tongue which were the size of a quarter. The Wassermann was negative. On May 3, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On May 10, 1911, the buccal lesions showed very little improvement. May 19, 1911, Wassermann ++.

Case 42. Tertiary Syphilis. G. McD. M. W.; age, 24; date, Nov. 16, 1909. The patient had scaly, papulo-tubercular and circinate lesions on the nose, left eyebrow, ears and shoulders. He received mercurial treatment at intervals with fair success until March 24, 1910. On Nov. 7, 1910, the old lesions became again active. 0.45 gm. of salvarsan was administered by the Wechselmann method. On Nov. 10, 1911, the lesions showed a marked improvement. On Nov. 28, 1910, the lesions had entirely healed; the Wassermann reaction was positive. On Dec. 15, 1910, the Wassermann was still positive.

Case 43. Tertiary Syphilis. W. McG. M. W.; age, 25; date, Nov. 16, 1910. There were ulcerated lesions on the arms and legs. On Nov. 26, 1910, 0.5 gm. of salvarsan was given by the Junkermann method. Dec. 15, 1910, Wassermann ++++.

Case 44. Tertiary Syphilis. T. B. M. W.; age, 29; date, May 14, 1911. There was a papulo-macular eruption on the face and thighs. May 15, 1911, Wassermann ++. On May 16, 1911, 0.6 gm. of salvarsan was administered according to the method of Junkermann. May 19, 1911, Wassermann ++.

Case 45. Primary and Secondary Syphilis. E. W. M. W.; age, 26; date, June 12, 1909. The patient exhibited a typical chancre on the penis and a generalized macular eruption. On July 2, 1909, the eruption, as a result of injections of bichloride of mercury, was fading, but the gums were inflamed and the patient complained of diarrhœa. The mercurial injections were discontinued. On July 7, 1909, ¼ gr. of the protiodide of mercury three times a day was prescribed. On Oct. 22, 1909, the patient was placed on mercury and chalk, 9 gr. daily. On Nov. 29, 1910, there was a general adenopathy, but no lesions. The mercury and chalk was decreased to 6 gr. daily. Jan. 11, 1911, Wassermann +++. On Feb. 23, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 1, 1911, Wassermann +++. The general condition of the patient was much improved.

Case 46. Tertiary Syphilis. M. G. M. W.; age, 39; date, Jan. 24, 1911. The patient had a chancre eight years ago. He received mercurial treatment for two and one-half years. On Dec. 25, 1910, he complained of lightning pains in the arms and legs and claimed that he did not have complete control over the muscles of the right leg. On Jan. 24, 1911, 0.4 gm. of salvarsan was given by the Junkermann method. On Feb. 2, 1911, the pains in the extremities were not so severe and he averred that he had better control over the right leg. On March 22, 1911, 0.4 gm. of salvarsan in 140 cc. of water (alkaline solution) was intravenously administered. April 1, 1911, Wassermann ++.

Case 47. Primary and Secondary Syphilis. G. M. M. W.; age, 21; date, Nov. 6, 1910. This patient presented a scar on the prepuce, the result of a recent primary lesion. He exhibited, also, a generalized macular eruption and mucous patches on the tonsils and tongue. He was placed on injections of the bichloride of mercury. On Dec. 2, 1910, the eruption was disappearing, but the throat was still ulcerated. On Jan 3, 1911, there was a scaly, circinate eruption on the back. The Wassermann was positive. 0.6 gm. of salvarsan was administered by the Junkermann method. On Jan. 9, 1911, the throat lesions were much im-

proved. On March 14, 1911, all the lesions had healed. March 18, 1911, Wassermann ++++.

Case 48. Tertiary Syphilis. M. L. F. W.; age, 28; date, July 25, 1910. There was an ulcer on the left side of the soft palate which was increasing in size rapidly. He was given injections of the cyanide of mercury in increasing doses for one month, at the end of which time gummata appeared on the right thigh and the extremities. These evoluted rapidly and soon ulcerated. On Oct. 5, 1910, the Wassermann was positive. 0.6 gm. of salvarsan was given by the Wechselmann method. On Nov. 10, 1910, all the lesions showed a marked improvement. On Nov. 4, 1910, the lesions were healed; the Wassermann was positive; the patient was placed on inunctions. On Dec. 1, 1910, the Wassermann was still positive; the inunctions were continued. Jan. 11, 1911, Wassermann —.

Case 49. Tertiary Syphilis. J. L. M. W.; age, 40; date, Jan. 5, 1911. The Wassermann reaction was positive. The patient was given 0.6 gm. of salvarsan by the Junkermann method. Feb. 6, 1911, Wassermann +. On Feb. 11, 1911, he was placed on injections of bichloride of mercury. April 12, 1911, Wassermann ++++.

Case 50. Tertiary Syphilis. W. S. M. W.; age, 22; date, March 24, 1911. The patient exhibited a tubercular syphilide. Mercury had had no effect on the lesions, but had produced ptyalism. An intravenous injection of 0.6 gm. of salvarsan in 140 cc. of water (alkaline solution) was administered. On April 20, 1911, all the lesions had healed and there was a gain in weight of ten pounds; Wassermann ++++. On May 2, 1911, 0.6 gm. of salvarsan was given by the Junkermann method.

Case 51. Secondary Syphilis. J. J. M. W.; age, 23; date, Oct. 31, 1910. There were mucous patches on the tongue and throat. The Wassermann reaction was positive. On Jan. 24, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. Feb. 21, 1911, Wassermann +—.

Case 52. Primary and Secondary Syphilis. P. L. M. W.; age, 27; date, Aug. 1, 1910. The patient exhibited a chancre of ten days' duration, from which the spirochætæ pallidæ were demonstrated by means of the dark-field illumination. The lesion was excised. Injections of bichloride of mercury were given until Aug. 25, 1910, when they were discontinued because of salivation. The wound left by the excision of the chancre was healed. Aug. 27, 1910, Wassermann ++++. On Nov. 1, 1910, injections of bichloride of mercury were again prescribed. On Jan. 30, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. March 6, 1911, Wassermann —. May 8, 1911, Wassermann —.

Case 53. Secondary Syphilis. C. M. M. W.; age, 28; date, Nov. 21, 1910. The patient had his primary sclerosis six months ago. This was followed by a macular eruption and throat lesions. He received inunctions for four months. On Dec. 4, 1910, he had an infected lesion on the leg. Some of the former lesions were still present. On Dec. 28, 1910, the Wassermann reaction was positive. On Dec. 30, 1910, 0.6 gm. of salvarsan was given by the Junkermann method. On Jan. 6, 1911, the lesions showed improvement. On Jan. 14, 1911, the lesions had healed. Jan. 24, 1911, Wassermann —. On Jan. 28, 1911, he complained of pains in the extremities. On April 10, 1911, an ulcer developed on the hard palate, which resulted in a perforation nineteen days later. April 30, 1911, Wassermann —.

Case 54. Primary and Secondary Syphilis. G. E. M. W.; age, 36; date, July 23, 1910. The patient presented a typical chancre of the lower lip. July 25, 1910, Wassermann —. Spirochætæ pallidæ were demonstrated by the dark-field illumination. Injections of bichloride of mercury were ordered. On Aug. 6, 1910, the lesion was healed, but the induration was still present. On Aug. 31, 1910, he complained of continuous headache; the mercurial injections were con-

tinued. On Jan. 17, 1911, 0.6 gm. of salvarsan was administered according to the Junkermann method. March 14, 1911, Wassermann —.

Case 55. Primary and Secondary Syphilis. W. B. M. W.; age, 21; date, Jan. 2, 1911. There was an indurated ulceration of the meatus. Jan. 3, 1911, Wassermann —. On Jan. 4, 1911, there was a slight macular eruption on the chest and arms. On Jan. 14, 1911, a general adenopathy was noted. On Jan. 17, 1911, the Wassermann was positive. Spirochætæ pallidæ were found by the aid of the dark-field illumination. On Jan. 24, 1911, the patient received 0.6 gm. of salvarsan by the Junkermann method. On Feb. 4, 1911, the chancre was healed. Feb. 27, 1911, Wassermann —. May 9, 1911, Wassermann —.

Case 56. Tertiary Syphilis. F. B. M. W.; age, 47; date, Jan. 12, 1911. The patient had a chancre twenty-five years ago, which was followed by secondaries. He took internal treatment for a short time. One year after his infection, the tonsils and soft palate were destroyed by the disease. When he entered the hospital, several scars were noticed on his nose and the Wassermann reaction was positive. On Jan. 16, 1911, 0.6 gm. of salvarsan was administered by the Junkermann method. May 19, 1911, Wassermann ...

Case 57. Tertiary Syphilis. J. K. M. W.; age, 42; date, Dec. 13, 1910. The patient had a chancre twenty-five years ago. When he entered the hospital he had an ulceration of the throat. On Jan. 10, 1911, the Wassermann reaction was positive. On March 20, 1911, 0.6 gm. of salvarsan was given by the Junkermann method. On March 31, 1911, the lesion had healed; the Wassermann was +. May 19, 1911, Wassermann —.

Case 58. Tertiary Syphilis. P. R. F. W.; age, 12; date, March 31, 1910. This was possibly a case of syphilis hereditaria tarda. The boy gave a history of having had throat trouble for the past five years. Eighteen months ago an ulcerated lesion developed in the throat which involved the soft palate, tonsils and the superior pillars of the fauces. This ulceration resulted in a sinus through the hard palate. He was given mercury and iodide to the point of toleration, but there was only slight improvement and on June 21, 1910, injections of bichloride of mercury were begun. On Aug. 8, 1910, the lesion was entirely healed. On Dec. 20, 1910, there was a slight ulceration in the throat. On Feb. 14, 1911, there was considerable ulceration. On Feb. 20, 1911, the patient was given 0.15 gm. of salvarsan by the Junkermann method. April 8, 1911, Wassermann —.

Case 59. Secondary Syphilis. B. V. M. W.; age, 36; date, March 31, 1911. The patient exhibited mucous patches on the tongue, cheek and lower lip. On April 1, 1911, 0.5 gm. of salvarsan in 400 cc. of water (alkaline solution) was injected into a vein of the left arm. On April 9, 1911, the lesions were healed. Injections of bichloride of mercury were given until May 15, 1911. On May 19, 1911, the Wassermann reaction was negative.

Case 60. Tertiary Syphilis. F. R. M. W.; age, 45; date, Dec. 14, 1910. The patient exhibited gummata of both legs. On Dec. 16, 1910, 0.4 gm. of salvarsan was injected by the Wechselmann method. On Jan. 4, 1911, the Wassermann reaction was positive.

Case 61. Primary and Secondary Syphilis. W. S. M. W.; age, 19; date, Nov. 17, 1910. There was a chancre on the prepuce, a maculo-papular eruption on the body and mucous patches in the mouth and throat. The inguinal glands were enlarged. He had been given daily inunctions for two weeks. On Nov. 18, 1910, 0.4 gm. of salvarsan was injected by the Wechselmann method. Nov. 24, 1910, Wassermann —.

Conclusions.

Of the sixty-one cases, thirty-two received salvarsan alone. Of these, nine, or twenty-eight per cent. gave a negative Wassermann

reaction; twenty-three, or seventy-two per cent. gave a positive reaction.

Of a group of persistent positive reactions, five had two doses, and one, three doses of salvarsan.

Of the sixty-one cases, twenty-nine received mercury injections, following the salvarsan. Of these, fourteen, or forty-eight per cent. gave a negative Wassermann reaction. Of the twenty-nine, four gave a persistent, positive reaction, after two doses of salvarsan and two courses of mercury respectively; *viz.*, Cases 5, 28, 36, 50.

Seven of the sixty-one cases had two doses of salvarsan alone and of these, only two became negative, or twenty-eight per cent. while five remained positive *viz.*, Cases 11, 16, 17, 26, 46; all of which were severe infections.

In the earlier syphilides, salvarsan was used alone in six cases, with the result of thirty-three per cent. negative Wassermann reactions.

In the late syphilides, salvarsan used alone, in twenty-six cases, gave twenty-six per cent. of negative reactions.

The Junkermann method was used in forty-three cases and gave negative reactions in sixteen, or thirty-seven per cent.

The intravenous method was used in sixteen cases, with no negative reaction after a single dose. Two negative reactions were obtained after two successive doses; five remained positive after two doses and the balance received mercury.

DISCUSSION.

Dr. Howard Fox thought that it was difficult to draw any general conclusion as to the serological action of salvarsan owing to the great discrepancies of different writers. A review of the literature showed that the proportion of negative reactions obtained varied from 5 to 90 per cent. Most of the observations had thus far been made after a single injection and it certainly seemed that one injection was an insufficient dose from the serological as well as the clinical standpoint. In general, the action of salvarsan upon the Wassermann reaction was analogous to that of mercury. Everyone would certainly agree that its action upon the clinical symptoms was much more rapid and marked than it was upon the Wassermann reaction. With regard to his own work, Dr. Fox said that 30 per cent. of the cases he had examined had changed from a positive to a negative Wassermann reaction within six weeks after the administration of salvarsan. He had noticed occasional variations in the strength of the reaction from week to week, though nothing so pronounced as the changes recorded by Zieler.

Dr. Buhman said the results of the Wassermann reaction in the 61 cases reported in the paper read by Dr. Engman had been followed very closely by him and while, as Dr. Howard Fox had said, the clinical symptoms following the injection of salvarsan seemed to subside very rapidly, the Wassermann reaction, without the aid of mercury, often remained strongly positive for some time. In a number of cases where no mercury was given, the Wassermann remained in

complete inhibition for a period as long as two to three months and then, when mercury was given, one could readily see where hæmolysis took place gradually and the reaction became negative.

Dr. Ruggles said he wished to show a little instrument which he had devised for the purpose of simplifying the puncture of the vein in giving injections of salvarsan and also in obtaining blood for testing purposes. Ordinarily, the vein was apt to roll under the finger and slide away and the point of the needle frequently slipped off to the right or left. But with this instrument, which was to be pressed down on the arm, the vein could be held firmly in place. The skin was entered at about three-eighths of an inch from the instrument, the groove of which had been accurately adjusted to the vein and, by keeping it in the direction of the vertical line bisecting the groove, one was sure to get a flow of blood from the vein. For securing blood for the Wassermann test, especially, he found that this method was simply ideal. The instrument was called the "vein finder."

Dr. Gilchrist said he thought a discussion in regard to the comparative merits of the Wassermann and other tests would be very instructive. He had seen cases of undoubted syphilis which gave a negative reaction to the Wassermann test, which caused one to wonder. Again, we saw patients without any evidences of syphilis who gave a double positive to the Wassermann test. This had been explained on the theory that there was some change going on in the arteries or in some of the organs of the body, although the patient was apparently enjoying perfect health. In cases where we had been in doubt as to whether the case was one of syphilis or not, the Wassermann test was a most valuable aid in the diagnosis, although it also gave a positive reaction in certain other conditions besides syphilis. The speaker said that in the first wave of our enthusiasm with regard to salvarsan, many thought that we could now do away entirely with mercury in the treatment of syphilis, but as yet we knew practically nothing regarding the future results of the salvarsan treatment and many of the cases in which the most brilliant results of the salvarsan treatment were obtained were in patients who had not been submitted to proper mercurial treatment. Personally, the speaker said, he had seen lesions disappear after three or four injections of mercury just as miraculously as after salvarsan. Until we knew more about the future of salvarsan, we should not be too optimistic and should not limit the publication of our results to neglected hospital patients, but should include private patients as well.

Dr. Pollitzer said that in regard to the effect of the Wassermann reaction of injections of salvarsan, it was almost impossible to make any summary of the results from the literature for the reason that some of the reports were made after a single injection and some after injections of salvarsan and mercury. Besides this, there was usually a jumble of early and late cases. As a matter of fact, if one went over the literature in a general way, it would be found that the Wassermann reaction became negative after a single injection in about fifteen or twenty per cent. of the cases; but the results were very different indeed if we took the reports made after a number of injections. In the speaker's own work, it had been his practice to make a single injection of salvarsan only a quasi emergency purpose, as he considered one injection of use only for the temporary relief of symptoms. The immediate effect of salvarsan, Dr. Pollitzer said, was far more powerful than that of mercury. After its use, lesions practically melted away and what happened occasionally with mercury happened regularly with salvarsan. His method of choice was to give an injection by the intravenous method and follow it in four or five days by an intramuscular injection and in such cases he rarely failed, after five or six weeks, to get a negative Wassermann reaction. The exceptions he had in mind

were cases in which he was dealing with bone lesions and one case of syphilitic pachymeningitis with epilepsy. In the latter instance the Wassermann reaction was still positive after four injections, although the epileptic seizures had ceased. In cases in which the Wassermann reaction was still positive notwithstanding prolonged and energetic treatment with mercury, the reaction would usually become negative within four or five weeks after a single injection of salvarsan.

Dr. Corlett advised conservatism in regard to both of the questions under discussion. His own experience with the Wassermann test dated back about two years when he entered the laboratory of Professor Finkler at Bonn to master the test. He was soon convinced, however, that it would be impracticable for him to undertake the work personally, and upon his return home two of the young men connected with the laboratory of the Western Reserve University came East, one to New York and the other to Philadelphia and fitted themselves, as they supposed, to perform this test. They were given laboratory facilities and began their work last September. He had supplied a large number of cases and had followed their findings for about nine months, after which his enthusiasm began to wane on account of the inaccuracy of the work being done. In his own cases, Dr. Corlett said, he soon observed certain discrepancies in connection with the Wassermann reports. One patient who gave an indefinite history of syphilis was examined in October, and gave a positive Wassermann reaction. No treatment was given to this patient and in the following March, when he was again examined, the reaction was distinctly negative. The speaker said he could multiply cases of this kind. He had been very much interested in this phase of the subject and during a recent visit to medical centres in Europe took occasion to investigate the work done, and had found that it was almost as indefinitely and carelessly done in Germany as in America and the results were about the same. In Berlin a specimen of blood was sent to three different experts, one of them being Wassermann himself, and three different results were reported—one positive, one negative and one intermediate. It was claimed by those who had done the most work with the serum that the only place where the test was accurately done was at the Royal Institute of Serology in Copenhagen. At a recent meeting of one of the State Societies the claim was made that it was not at all necessary to have the test made by a serum expert. He deplored this "Jack-of-all-trade" sentiment, especially in a field so important and while believing in the ultimate triumph of the Wassermann fixation test in the diagnosis of syphilis, he thought, as generally performed at this time throughout the country, its findings were not to be relied upon.

Dr. Schamberg said he had had some sixty Wassermann tests made, most of them being patients in private practice and readings had in a large part tallied with the clinical findings, and they had been of inestimable value to him from a diagnostic and therapeutic viewpoint. One man, who had been treated fifteen years ago for an initial sclerosis and later for ulceration of the posterior pharyngeal wall, the cutaneous eruption having been prevented by vigorous mercurial treatment, remained free from symptoms up to two years ago, when he began to complain of persistent headaches, which were directly associated with constipation and pale-colored stools. A Wassermann was made, which gave a result of 3 plus. After the use of mercury hypodermically, the Wassermann test gradually became negative and with that the headaches and constipation disappeared, the stools became colored with bile, and his digestion, which had been very bad, particularly for starchy foods was enormously improved. In this case, the speaker said, he had no doubt that the man had an active syphilitic process in his liver, probably an interstitial hepatitis. Dr. Schamberg said he felt that the Wassermann test, with certain reservations in diseases that did not come in direct

differential conflict with syphilis, was of the greatest value. Apropos of the results obtained by Dr. Pollitzer, Gennerich reported 27 cases, in 23 of which the Wassermann was negative after three intravenous injections of salvarsan. Much time would be necessary, Dr. Schamberg thought, before we would be able to interpret the permanent effect on syphilis of several injections of salvarsan, as well as of injections of salvarsan combined with mercurial treatment. In spite of the utter contempt that had been shown in some quarters for the internal treatment of syphilis with mercury alone, he believed that quite a number of cases had been permanently cured by it, as shown in his own experience by the freedom from symptoms and the negative Wassermann after long periods. Salvarsan, particularly when administered intravenously, had a far more efficient effect on the manifestations of syphilis than had mercury, barring exceptional cases, and there were cases, particularly those of the malignant type, that utterly resisted the effects of mercury and in which the effects of salvarsan were magical. It appeared also, Dr. Schamberg said, that salvarsan properly employed was a relatively harmless medicament. In a case of heredo-syphilis in a boy of eleven years, he had recently given 3-10 gm. by intravenous injection, followed in ten days by the full six-tenths intravenously with no unfavorable symptoms and with a brilliant effect upon a severe double interstitial keratitis.

Dr. Engman said that this entire question hinged largely upon the man who did the work and the reliability of his reagents. In their own work they found that where the clinical results and the Wassermann reaction were at variance, it was in some instances due to the unreliability of the reagents. Dr. Engman said he looked upon the Wassermann test as a most valuable adjunct in the treatment of syphilis. At the Skin and Cancer Hospital in St. Louis, where they could control the patients to a certain extent, the test had been found very valuable and of great assistance to them. The report submitted he deemed very significant in relation to the value of salvarsan as a remedy. It was a most valuable remedy and soon would find its indications. The cases in the report had been completely followed by the Wassermann test with reliable and accurate technique.

SOCIETY TRANSACTIONS.

CLINICAL SESSIONS OF THE THIRTY-FIFTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.*

Dermatitis Exfoliativa. Presented by Dr. Charles J. White.

The patient was a male, twenty-four years of age and a clerk by occupation. A sore developed on the penis about March 1, 1911. This became phagedænic but was healed in about six weeks. One week later a faint roseola appeared and the man began to take internally some cap-

*The clinical meetings were held at the Boston City Dispensary on Friday, May 26, 1911 and at the Massachusetts General Hospital on Saturday, May 27, 1911.

sules and to rub in externally "mercurettes." This was done for more than six weeks. In June, a week of malaise, sore throat, etc., occurred. In late July he noticed vesicles on the lateral aspects of his fingers and one week later "water blisters" between the scapulæ and on the face. On August 26th the patient entered the hospital in a state of universal desquamation. The scales were large, thick, loose at the periphery and attached at the centre. There was considerable moisture about the face and there was the remains of bullæ about the ankles. Itching was a marked feature and the skin as a whole was of a dusky-red hue. The general physical condition was good, insomnia and pruritus being the only marked pathological features. Twelve days later the mental condition became clouded and the man was restless and irritable, but in another week the skin began to be less moist and to desquamate less and the patient became more normal mentally. So it went with ups and downs until the middle of October, when the skin was nearly normal in color and quite dry and the desquamated scales were much smaller in size than at any previous time. A few days later, however, the sacral skin became moist and erythematous, then the same condition developed on the legs and finally the whole body surface became moist, dusky red and rather denuded of scales. Improvement again followed, but the patient became tired of his surroundings and left the hospital on November 1st. A few days later, after no care whatever, because the nurses of a private hospital were afraid to go near this unfortunate man, he was found in a most deplorable condition. The odor from his body was almost insupportable, the whole surface was moist, dusky red, covered with large thick scales attached at their centres and his bed was literally full of desquamated scales. The man was ordered home, where he was seen every two weeks. He immediately gained considerable weight and, with the exception of his face and lower legs, the skin became practically normal. The hair grew again everywhere, except in the anterior portion of the scalp, but the nails were still thin and fragile. This great change for the better could be attributed, the speaker said, partly to more favorable surroundings, home cooking and companionship, but principally to the suppression of all external treatment save the application of borated talcum powder. This idea was derived from Dr. Engman and Dr. Mook, of St. Louis, who had found recently in three cases of dermatitis exfoliativa that no treatment at all, or restriction to inert powders, had been followed by cures. It was, the speaker thought, a fact worthy of record in this connection that five other cases of dermatitis exfoliativa that had been under his care had all done remarkably well under his desiccating treatment, the explanation of this striking amelioration in his opinion lying in the prevention of bacterial growth, heat and moisture being absent.

Since presenting this man to the Association an interesting phenomenon has been observed. The original outbreak was caused by the inunction of mercury. Remembering this and being confronted with a positive Wassermann, the injec-

tion of mercury was tried, but this procedure started up a moist exfoliating condition after a few treatments and the process was abandoned. As a last resort mercury pills were administered, but a very sharp reaction resulted and the sacral and knee regions broke out badly. What was to be done for syphilis in such a marked idiosyncrasy against the drug?

Dermatitis Exfoliativa. Presented by Dr. Charles J. White.

The patient was a Russian Jew, twenty-eight years of age, a hard drinker and smoker. Twelve weeks before entering the hospital the man noticed a sore on his penis which required nine weeks to heal. Ten weeks later a rash appeared on the body which soon became desquamative and spread rapidly; in fact within eight days it extended from the scalp to the face and downward over the whole body to the toes. In this interim a clear, odorless wash was used and "little yellow pills" were taken. Four days after his entrance in the hospital the Wassermann reaction was negative.

When first seen the whole body surface was dull red in color, moist and oozing, covered with exfoliating epidermis and very foul-smelling. The eyelids were stiff and the fingers immovable. Sixteen days after the ingestion of thyroid extract, a daily starch bath and the constant and incessant application of borated talcum powder, the skin was dry and the eyelids and fingers flexible. Two weeks later the skin was still dry, very dark in color and covered with a furfuraceous desquamation. Large doses of hydrochlorate of quinine were then ingested and in another two weeks, *i.e.*, six weeks from the beginning of treatment, the man was practically well. The Wassermann was again negative.

These two cases, although at the present moment free from cutaneous disease, were demonstrated to emphasize the fact that the dry treatment of dermatitis exfoliativa, as originated by Engman and Mook, was capable of the greatest possible benefit to this very unfortunate class of patients.

Dermatitis Exfoliativa. Presented by Dr. Towle.

In this case of exfoliating dermatitis, the eruption had begun as an eczema of the palms. It then spread upward until it involved the shoulders and scapular regions and then the body. It was now practically universal.

Dr. Ravogli said that perhaps we did not always understand each other when we used the term dermatitis exfoliativa. We might, for example, apply this term to an exfoliating eczema or psoriasis. There were, also, cases of acute dermatitis exfoliativa which usually ended in recovery. The speaker said he could recall several such cases, which would improve under the mere application of a powder or mild lotion of carbolic acid, glycerine and rose water, but aside from these comparatively mild cases, one occasionally would see desquamative eruptions of severe character which were referred to the old pityriasis rubra of Hebra, a disease in which nothing, apparently, did the patients any good. Dr. Ravogli said he had seen two cases of this kind which ended fatally.

Dr. Ruggles said that in a case of dermatitis exfoliativa which he saw about a year and a half ago, the patient improved a great deal under treatment, but was never entirely well and in the course of a year the eruption changed to an absolutely characteristic, generalized, psoriasis vulgaris.

Dr. Ormsby mentioned a case of generalized dermatitis exfoliativa which he saw about two years ago. In that instance the eruption was produced by the application of mercury ointment, similar to one of the cases shown by Dr. White. It proved fatal within a week after he first saw her. In that case there was a very offensive odor from the skin.

Dr. Howard Fox inquired whether Dr. Towle considered the dermatitis exfoliativa to have been primary or to have been secondary to a pityriasis rubra pilaris, some evidences of which were apparently present?

Dr. Towle, replying to Dr. Fox, said that so far as was known, there was no preceding skin disease excepting eczema.

Dr. Bronson said it was a well known fact that dermatitis exfoliativa might complicate or rather succeed to various other skin diseases—for instance, psoriasis, eczema, as a chronic or recurrent sequel to scarlatina, and so on, but it always had certain typical features which did not appear pronounced in the three cases that had been shown. In the last case, for example, there was a certain thickening of the skin which did not comport with pure dermatitis exfoliativa. There was a papular or lichenoid condition, not unlike that observed in eczema lichenoides. The first patient gave a history of having been previously treated with a mercurial application and the speaker said it occurred to him that the case originally might have been one of hydrargyrism.

Dr. Hartzell said he thought the third case was certainly one of pityriasis rubra pilaris. The lesions on the hands were typical of that disease and he did not see why it should be called dermatitis exfoliativa.

Dr. Engman agreed with Dr. Hartzell that the third case looked very much like pityriasis rubra pilaris. The important point in these cases, he thought, was the ætiological factor. In exfoliative dermatitis there might be a great many different such factors, but what we needed in the treatment was increased radiation. In three or four cases where he had employed the powder treatment very freely, even applying it during the sleeping hours, the results were good. He was opposed to the use of greasy applications in these cases, as it decreased surface radiation.

Dr. Corlett said that although he had never used the powder in this class of cases, he had used it extensively in similar conditions and had never seen any good results from it, so that recently he was advising it less and less. As to the diagnosis in these cases, he was inclined to agree with the previous speakers that the third case was one of pityriasis rubra pilaris. This entire group of eruptions, he thought, was not clearly defined. In one case of typical eczema seborrhœicum, which he saw some years ago and of which he took some excellent photographs at the time, the patient returned three or four years later with a well-defined psoriasis, as in the case mentioned by Dr. Ruggles.

Dr. Towle said that in the case he had shown, the man had been given greasy applications and for comfort the patient preferred them to the powder.

Dr. C. J. White said that these patients had suffered considerably from the use of the powder on account of the drying and cracking of the skin that followed its free application; but if they were held to it, the crisis would pass and they would then be comparatively comfortable.

Dr. Engman said that in the dry stage of the disease, starch baths gave relief.

Erythrodermie Congenitale Ichthyosiforme. Presented by Dr. Charles J. White.

A boy, aged seven years, whose disease had been present since birth, starting as a roughened surface on the inner surface of the thighs and on the buttocks. As time went on this roughness spread to the back, head and feet. Then the hands became rough, dry, fissured and thickened. Itching had been a marked symptom, even wakening the child out of a sound sleep. Treatment with thyroid extract internally and salicylated soap plasters externally led to some improvement, but the condition grew worse as soon as treatment was stopped. When presented, there were large and irregularly shaped, scattered areas over the whole body surface. Some of the plaques were round and some elongated, as in nævus unius lateris. The affected skin was uniformly pinkish red, slightly elevated, delicately scaling and as a whole very reminiscent of erythrodermie pityriasique en plaques disséminées.

Dr. Corlett said that the eruption suggeested a parapsoriasis.

Dr. C. J. White said that at the time when the diagnosis of erythrodermie ichthysioforme was made in this case, the eruption had a distinctly ichthyotic appearance and seemed to fit that name. The eruption did not resemble it now. The speaker said the lesions were congenital. He never had seen a case of congenital parapsoriasis.

Dr. Howard Fox said the case resembled one shown by Dr. George T. Jackson at a meeting of the New York Dermatological Society. In that case there were lesions upon the back of the neck, but no keratosis of the palms.

Extensive Facial Nævus Vascularis. Presented by Dr. Charles J. White.

The patient was a Canadian boy, thirteen years of age. The whole lower part of the face and upper neck was involved in one large violet-colored, smooth-topped vascular nævus which increased to a marked degree the size and thickness of the affected parts. Seventeen applications of the solid carbon dioxide had been made during the last three months with the result that the treated areas were paler in color and less in thickness. It would seem that if the patient could continue this treatment over a sufficiently long time one might hope for a fairly good result.*

Dr. Morrow said he would prefer to use radium on a lesion of this kind. He had some photographs of nævi which had been treated with radium and the results were very much better than those treated with liquid air or carbonic acid snow.

Dr Jackson said he did not believe a nævus of this kind could be eradicated either with liquid air or carbonic acid snow. He thought that a surgical operation was indicated. Freezing in a case of this kind would leave a great deal of thickening of the skin. It would destroy many of the blood vessels and greatly reduce the color, but the fibrous scaffolding of the angioma would

*Since this patient was presented several surgeons were consulted in regard to an operation, but they deemed it best not to interfere.

remain unaffected for the most part and a prominent tumor mass would remain..

Dr. Winfield said that in a somewhat similar case of very extensive nævus of the face in a negro boy which he had shown at a meeting of the New York Dermatological Society, the patient was turned over to Dr. Wallhauser of Newark, at his request, and was treated with the solid carbon dioxide with very marked improvement.

Dr. G. H. Fox said that as he recalled the case referred to by Dr. Winfield, the lesion was comparatively superficial. He agreed with Dr. Jackson that in a case of this kind the freezing applications would produce a cicatrix, but not destroy the lesion. The old-fashioned method of heating an awl and plunging it deep into the tissues might be of value in this case, but any application which only burned the surface would be comparatively useless. The injection of carbolic acid had produced good results in such cases.

Dr. Shepherd thought that by taking out a V-shaped section in this case, the appearance of the lower lip might be improved. The speaker said he had used liquid air very extensively and even in cases that were at first apparently hopeless, it had, in the course of time, after the cicatricial tissue contracted, produced a tremendous improvement in some instances. The treatment required perseverence, with occasional periods of intermission. An operation in a case of this kind, excepting to improve the appearance of the lower lip, was rather formidable.

Dr. Corlett said he agreed with Drs. Jackson and Fox that the freezing applications would be unsatisfactory in a case of this kind. Some surgeons, he thought, were now using hot-water injections in these cases and from what he had seen its use in this condition promised more than anything else.

Dr. Sherwell said that in one case of nævus of the face of a cirsoid aneurismal character, perhaps better classed as an angioma, he had used the carbon dioxide snow with very good effect. The duration of the first application of the snow was one minute and twenty-five seconds and two subsequent applications of twenty-five seconds each. The lesion in this case was on the cheek. The applications were made under decided pressure and the parts were then given a vigorous rubbing while the tissues were in a crystalline state. This damage to the integrity of the endothelium and vessels themselves, set up a good deal of inflammatory reaction, but the result was very satisfactory.

Dr. Gilchrist said that about two months ago a patient came to the hospital with a lesion involving the nose and eyelid and overlapping the tear duct. As the case was unsuitable for either operation or the application of carbonic acid snow, Dr. Gilchrist said he applied pure radium for two hours one afternoon and for an hour and a half about a week later. Within three weeks after the second application, the reddish appearance of the lesion had entirely disappeared and it was otherwise markedly improved. In connection with the use of carbonic acid snow, the speaker said that on account of the pressure exerted, it was very apt to leave a disfiguring, punched-out scar and in order to avoid this he suggested pushing the tissues outward from within, while the application was being made.

Elephantiasis of the Lip. Presented by Dr. Charles J. White.

The patient was a Russian Jew, fifteen years of age. The boy was seen once in 1904 with eczema narium, œdema of the left cheek, a carious molar tooth and pediculosis capillitii. A year later, the patient returned

with both lips markedly swollen. Since then the lip had gradually increased in size and the speaker said that the case was to be transferred to a surgeon for a plastic operation. A thorough medical examination had revealed nothing abnormal internally. When presented, the lower lip was much everted, greatly hypertrophied and hard and covered with a tense, red, shiny, smooth surface.

Dr. Schamberg said that this form of hypertrophy of the lip was observed from time to time in connection with various infectious conditions and appeared to be due to an obliteration of the lymphatics. He had seen one case in which it occurred after a late syphilitic ulceration of the lip. It had also been observed after erysipelas. It was a question, he thought, whether we could not find a better term for it than elephantiasis, which suggested a distinct clinical entity. Macrocheilia, perhaps, was a preferable name.

Dr. Anthony said that in this case, in addition to the enlargement of the lip, there were, also, evidences of circulatory disturbances in the hands and feet. The hands were cold, sweaty, and slightly bluish. Such vascular disturbances occurred in association with distant foci of chronic infection.

Dr. Engman said he thought these elephantiastic conditions about the face were due to interference with the lymphatic circulation, especially lesions in the nares. He had seen them occur in connection with adenoids and various other intra-nasal conditions.

Dr. Shepherd said he had seen this condition resulting from septic lesions about the mouth, such as the decayed root of a tooth. He had also seen it, as Dr. Engman said, in connection with intra-nasal lesions. He regarded it as the result of a septic process.

Dr. Schamberg said this patient had informed him that prior to the enlargement of the lip he had had a sore on the inside of the cheek, which persisted for some time.

Dr. Gilchrist said he had seen persistent œdema of the upper and lower eyelids in a colored boy, for which no satisfactory explanation could be found. He removed a section and was surprised to find that it was not a simple œdema and that there was a considerable amount of cellular infiltration.

Dr. Corlett said he recalled one case similar to this one, in which the enlargement was associated with a certain amount of inflammation. It was a chronic affair and the case finally passed into the hands of the surgeons.

Case for Diagnosis. Presented by Dr. Charles J. White.

The patient was an Englishman, fifty-one years of age, a weaver by trade. The disease began twenty-one years ago as a slightly itchy papule on the left buttock and the eruption gradually spread until the present area, roughly four inches in diameter, was reached. Two years ago, when first observed, the plaque contained isolated and coalescent lesions, which consisted of papules or tubercles, generally rounded in shape and of a moderately bright-red color and quite firm to the touch. The confluent lesions were more elevated and presented a papillomatous surface with some crusting. Between these newer lesions wer scars. The periphery of the plaque was serpiginous and sharply demarcated from the

adjacent healthy skin. The affected area was sensitive to pressure. There were pea-sized outlying lesions of a papular type and over the abdomen and back were conspicuously numerous angiomata. Histologically one found a very marked hypertrophy, principally of the rete. Many rete cells contained mitoses. The papillæ were elongated and contained dilated vessels, a prominent feature of the sections, and these vessels were surrounded by a mild lymphocytic infiltration. The Wassermann reaction was positive. Iodide of potash was administered, a salicylated ointment applied and the lesions subsided somewhat in the course of a month, but amelioration ceased and the curette was resorted to, causing great pain at each application, but finally extinguishing the macroscopical lesions. One year later the man re-entered the hospital with the disease fully developed as before—the individual lesions varying in size from that of a small pea to that of a silver half-dollar. The area now involved was 6x7½ inches. The Wassermann reaction was negative and the treatment consisted of the application of the solid carbon dioxide. When presented to the Association the disease was present in its original aspects.

Dr. Corlett thought the case was one of lupus vulgaris, with partial disappearance of the lesion under treatment.

Dr. Ravogli said that in this case he would advise the use of tuberculin. If the case were one of lupus, the Morro test might give some enlightenment. He regarded the lesion as a superficial lupus, or a lupus nodularis, which he considered nothing more than a form of tuberculosis. The case, then, might be regarded as one of superficial tuberculosis of the skin. The whitish appearance of the scar agreed perfectly with that diagnosis.

Dr. Hartzell said that certain of the sections from this case resembled, or at least recalled, the early stage of Paget's disease. Some two or three years ago he saw a case of Paget's disease involving the breast where the histological picture was very similar to this. In that instance, the correct diagnosis was not made at first and it was only after the woman had developed a mammary tumor and after further sections had been examined, that the case was recognized as one of Paget's disease. In the case shown by Dr. White it was possible that there was present a precancerous or early stage of carcinoma of the skin.

Dr. Gilchrist said the section from this patient reminded him of a case he saw some years ago where the lesion was on the dorsal surface of a girl's finger. The histological picture was almost an exact duplicate of this case. Possibly Dr. Hartzell had offered the correct solution of the case, namely, that we were dealing here with a precancerous condition of the skin. The contrast between the appearance of the sections and the clinical features of the case was remarkable.

Dr. C. J. White said he had examined sections from a great many cases of Paget's disease and he did not think that this case could be recognized as such from the histological picture.

Brown-Tail Moth Dermatitis. Presented by Dr. Charles J. White.

The eruption was absolutely typical, but the case was presented because of its necessary interest to our Western colleagues who, fortunately, were not called upon to recognize this comparatively new morbid

process. The man was a farmer, who had been spraying trees with arsenate of lead to protect them from these pests. His face, neck, hands and forearms were dotted liberally with firm, scarlet, acuminate papules, some of which were vesicular and others excoriated. In this particular instance the urticarial element was wanting, the process remaining a purely papular one.

Keratosis Palmaris et Plantaris Hereditaria. Presented by Dr. Charles J. White.

The patient was a Swedish girl of twenty-four. Both palms and both soles were covered with hard, dry, thick, yellow skin. The maternal grandmother was the first known familial example of this affection. Her two daughters, her only children, were similarly affected, while of the first six grandchildren, by one of these daughters, one boy and three girls (one, the present patient) were likewise afflicted.

Parapsoriasis. Presented by Dr. Charles J. White.

The patient was a German woman, fifty-seven years of age. The disease began at the menopause, seventeen years ago, and had persisted more or less ever since. On the trunk and extremities there were dry, scaling, reddish-brown, slightly infiltrated plaques with very sharply defined edges. In places, there were lichenified outlying papules. On the lower leg there was an appearance, often noted in these cases, of a sharply outlined, circular island of perfectly normal skin, surrounded by a large area of diseased tissue.

Dr. Bronson said there was distinct atrophy of the skin in this case, which we would not look for either in psoriasis or parapsoriasis. He thought the eruption was associated with some trophic disorder of the skin.

Dermatitis Herpetiformis. Presented by Dr. Charles J. White.

The patient was an American boy, aged ten years. The first eruption began at the age of eighteen months following an attack of diarrhœa and the disease had persisted on and off ever since. This first attack appeared as vesicles on the chin and rapidly involved the whole body. Later, pustules developed and finally the outbreak assumed very variegated forms. When presented, the disease was in abeyance and consisted of a very few, small, scattered groups of pea-sized vesicles. The boy was well and healthy despite his protracted skin affection.

Prurigo (?). Presented by Dr. Charles J. White.

The patient was a female, aged thirteen and attended school. This young girl had been in the hospital on three or four previous occasions. A few days of hospital life, with its healthy conditions of air, food, sleep and medical care, had always brought about a rapid amelioration of her

skin lesions and she always had been discharged practically free from visible signs of disease after a few weeks' sojourn in the ward. Despite her apparent cure, the child would always return to the out-patient clinic a week or more later, with the disease as evident as ever. This had been the previous experience and the cycle was to be again repeated. On entrance, the eruption was a perfect replica of previous attacks. The cheeks and forehead were very flushed and studded thickly with firm, hard, shotty papules. The arms and legs were similarly affected, but the lower legs and the lower arms were much more abundantly broken out and the extensor surfaces of both arms and legs were more affected than the flexors. Palpable glands were numerous and widely scattered. This was a typical example of prurigo mitis; and hospital gygiene, soothing washes, carbohydrate diet and intestinal antiseptics, brought about their usual rapid favorable results and nineteen days after entrance, the girl was discharged nearly free from outward manifestations of her disease. When presented, there was a renewed activity of the disease.

Dr. Sherwell said he did not recognize this as a case of prurigo, but was inclined to regard it as one of dermatitis herpetiformis.

Dr. Corlett said that while there were some features of the case that distinguished it from the typical prurigo of Hebra, still he was inclined to believe that Dr. White's diagnosis was correct.

Dr. Klotz said he was inclined to agree with Dr. Sherwell that the case was one of dermatitis herpetiformis. By prurigo we understood a more or less continuous condition; there were exacerbations, but some eruption, more or less was constantly present, while according to the history in this case, the patient was at times entirely free from lesions.

Dr. Bronson said it seemed to him that the only feature of this case that spoke in favor of the prurigo of Hebra was its long continuance. The eruption did not increase in severity from above downward, as prurigo did, and its recrudescence in crops seemed to point to dermatitis herpetiformis.

Dr. C. J. White, in reply to a question, said the patient had enlarged glands in the groin and elsewhere.

Dr. Fordyce considered the eruption a lichen urticatus. This eruption occurred in both children and adults, but more commonly in children. It was not easily influenced by treatment.

Dr. Ormsby said he agreed with Dr. Fordyce that the case was one of lichen urticatus. The speaker referred to the work of Dr. Colcott Fox, in connection with lichen urticatus, and his observations to determine whether lichen urticatus ever developed into true prurigo.

Adiposis Dolorosa. Presented by Dr. Charles J. White.

The patient was an American woman, sixty-three years of age. The disease had been present for six years. The woman had a general, thick layer of fat and pressure was universally painful. There were, however, no nodes.

Granuloma Annulare. Presented by Dr. Charles J. White.

The patient was a female, aged eight. The father had tuberculosis (the only case in the family). The child had scarlet fever two years ago and whooping cough last Winter. The physical examination was negative except for the cutaneous eruption, which first appeared six weeks ago. When presented, there was, on the flexor surface of the left index finger, a painless, oval ring, 1¼ inches in diameter. The ring was elevated ¼ inch above the surface, was white, firm and elastic and somewhat nodular. The centre was probably at the level of the normal skin and was free from abnormal signs except for a somewhat purplish color. Over the middle joint of the right index finger, on the extensor surface, was a circular line of papules, rather ill-defined, red in color, ⅜ inch in diameter, the arrangement producing a ring-shaped eruption resembling its fellow on the left finger. The rings continued to extend peripherally, the larger one gaining ¼ inch in diameter and some of the individual papules became delled and glistening. This advance continued for about six weeks and then X-ray exposures were begun and at the end of a week distinct softening of the lesions had occurred, although the periphery had continued to extend. Three weeks after the institution of the X-radiation, the lesions were level with the normal skin, but the extent of the previous process could be seen clearly by the color differences of the healthy and the abnormal skin.

Epidermis. The stratum germinativum was normal, but the overlying rete cells changed abruptly. The protoplasm of the cell was shrunken, leaving the nucleus occupying the larger portion of the cell structure; or the protoplasm around the nuclei disappeared, leaving conspicuous, perinuclear halos; or again, the nuclear protoplasm rarefied, leaving a clear space containing chromatin granules, floating within the nuclear rim. The stratum granulosum was hyperplastic and dense. The cell boundaries were very indistinct and the layer as a whole seemed compressed. Above this layer was an indeterminate zone, basic in its affinity and difficult to name. It was very compact and contained many elongated, flattened nuclei without granules. This zone occupied the area of the stratum lucidum, but could hardly be designated by this name. Above this debatable ground appeared a very hyperplastic stratum corneum, which was almost twice as thick as the whole underlying epidermis. It was wholly atypical and consisted of swollen horny cells full of vesicular spaces, most of which seemed to hold a degenerated nucleus containing granular matter.

Corium. The subpapillary layer was rather rarefied and held numerous vessels, many of which were slightly dilated and surrounded by lymphocytes. On the other hand, some of these vessels showed endothelial thickening. Below this level the corium became highly pathological and contained many lobules contiguous to one another and separated by more or less vertical or slanting bands of fibrous tissue. The lobules themselves were composed of short, dense connective tissue cells containing many lymphocytes. Within these lobules were large veins exhibiting considerable endothelial and perithelial thickening and here and there total obliteration. Sweat glands, when present, seemed compressed and their lumen was much restricted in diameter. These structures seemed to be analogous to the cellular invasions of the fat cells observed in erythema indura-

tum, and in places in these sections this invasion and final obliteration of the panniculus adiposus could be well observed. No giant cells, however, could be noted. The elastic element in the corium was very much reduced in amount everywhere. It was deficient in amount in the papillary and subpapillary zones, while in the neoplastic lobules elastin was represented solely by a few somewhat large and peculiarly straight rods.

Dr. Hartzell said that within the past two years he had had a case of this kind under observation in the out-patient department of the University of Pennsylvania. In this case there were three lesions, which disappeared entirely under X-ray treatment.

Dr. Gilchrist said that about a week ago he saw a typical case of this kind. The patient was a woman with lesions of three years' duration on the knuckles and second joints of the hands. The patient stated that the lesions usually disappeared in the Spring and returned in the Fall and when Dr. Gilchrist saw them they had been there about two months. He had not tried the X-ray treatment.

Dr. Anthony said that he did not accept the diagnosis of granuloma annulare, although there was a resemblance to this disease. The eruption was recurrent and presented the clinical characteristics of erythema elevatum diutinum of Crocker. There were multiple, bluish nodes on the phalangeal joints. This was a rare form of eruption in adult life, but not uncommon in children affected with rheumatism or chorea.

Dermatitis Herpetiformis. Presented by Dr. Towle.

It was impossible to obtain a detailed history from this man. He was apparently sixty years of age and so far as could be determined had had his eruption but three days. He presented, over the trunk, upper arms and thighs, an eruption of dermatitis herpetiformis which in many of its aspects suggested pemphigus.*

Dr. Hartzell said this was a beautiful illustration of the difficulty that sometimes arose in differentiating between erythema multiforme bullosum, dermatitis herpetiformis and pemphigus circinatus.

Dr. Fordyce said it looked to him like an artificial condition produced by some chemical agent. It did not impress him as being a case of dermatitis herpetiformis.

Dr. Ormsby thought the case was one of erythema multiforme of the bullous type.

Dr. G. H. Fox said he agreed with Dr. Hartzell that the case might be regarded as one of erythema multiforme bullosum, or dermatitis herpetiformis or pemphigus circinatus. We could call it any one of these three and probably be satisfied with the diagnosis, even if it were not beyond criticism.

*In the further course of the disease, crops of pea-sized vesicles and egg-shaped and round bullæ appeared upon the peripheries of the various patches daily for about three weeks. The lesions ruptured easily, leaving raw, moist, denuded surfaces, which healed within six or seven days, leaving a bluish-red discoloration behind. During the height of the eruption, the itching and the discomfort from the denuded surfaces were so intense as to prevent sleep. After about three weeks, new lesions ceased to appear in any numbers and the patient requested his discharge.

Dr. Grindon said that in the inguinal region he thought the lesions were typical of an acute septic pemphigus. It was true that the bullæ were smaller than we generally saw in these cases, but their circinate arrangement was very suggestive of a septic pemphigus. The speaker said he favored that diagnosis instead of a dematitis herpetiformis.

Dr. Ravogli said that while this resembled a dermatitis herpetiformis, it might possibly prove to be a case of pemphigus. The examination of the urine might throw some light on the differential diagnosis. In dermatitis herpetiformis the urine was always normal, while in pemphigus the urine contained albumin and casts. Pemphigus was due to retention of poisonous elements, which were not eliminated from the system, by the action of the kidneys. Dermatitis herpetiformis was the result of irritation of the vasomotor centre. He would not establish the diagnosis without a urinalysis.

Rhus Poisoning. Presented by Dr. Charles J. White.

Dr. White said he had recently received a communication from the Health Department of the German Government requesting him to cable it his opinion with regard to a case of alleged rhus poisoning. The facts submitted to him were as follows: The city of Berlin was sued for 7,000 Marks by a man who claimed that he had been poisoned by rhus toxicodendron in the Botanical Gardens. According to his statement, the eruption was limited to his arms and chest and did not make its appearance until between the eighth and twelfth day after exposure. Dr. White said he telegraphed back that he did not regard the case as one of rhus poisoning, which usually developed within twenty-four or forty-eight hours after exposure and never after the fifth day in his experience. Moreover, that it did not previously affect covered portions of the body. The speaker said that in the last number of the Journal of the American Medical Association he saw the report of a fatal case of rhus poisoning. Dr. White said the only fatal case he was acquainted with was that of a boy who, after swimming, became infected with the poison while being rubbed dry by a man who had on the same day been employed in pulling up roots of the plant. In connection with this general subject, Dr. White said there was one other point that he wished to bring up for discussion, namely, could a person be poisoned without actual personal contact with the plant? He thought he had sufficient data to justify him in that belief, that it could be so produced.

Dr. Klotz said he recalled one case where a young girl who was known to be predisposed to ivy poisoning developed a characteristic, generalized eruption, although she had not come in closer proximity to the plant than driving through the woods in an open carriage.

Dr. Schamberg said he had never seen a case of rhus poisoning in which the eruption developed as long after the time of exposure as in the case reported by Dr. White and he thought the opinion given by Dr. White in that case was fully justified. The speaker said he recalled a number of instances where persons had informed him that they had suffered from ivy poisoning at various periods after they had been in the vicinity of the plant, but had not come in direct

contact with it. He asked Dr. White whether he had ever seen an instance of ivy poisoning transferred to a second person?

Dr. J. C. White said that in the fatal case he had cited, the infection was transmitted by rubbing. Upon various occasions he had tried to inoculate the disease by rubbing the secretions from the fresh lesions of ivy poisoning into the excoriated skin of another person, but he had never succeeded in producing the eruption in this way—not even in persons who were known to be especially prone to it. The speaker maintained that the eruption could be produced in some cases without actually touching the plant, in spite of the assertion of Prof. Pfaff, who wrote an article on the subject, in which he asserted that this was not a volatile poison and that the eruption could not be produced without touching the substance itself. He simply demonstrated by his experiments that the poison he obtained did not, in the individuals he exposed to it, produce the symptoms by emanation, but he did not prove the absence of a volatile poison in any sense.

Dr. Shepherd mentioned a case where the poison had been transmitted through the clothing.

Dr. J. C. White said that Prof. Gray claimed he was very susceptible to the fresh poison, but that after the plant had become thoroughly desiccated, it no longer affected him.

Dr. Pollitzer said that one of the most severe and extensive cases of rhus poisoning he had seen occurred without direct contact with the plant. A large quantity of the dry vines had been cut, gathered in a heap and set on fire. The patient had incautiously exposed himself for a minute to the smoke and vapor from this fire. Within a few hours his face and hands became badly swollen and the dermatitis later became almost general.

Dr. Trimble said that only a few days ago, in Dr. Fordyce's clinic in New York, he saw a case of a rather generalized eruption which was typical of rhus poisoning; the patient, a man, had not been out of the city for two weeks. The eruption was most pronounced on the neck, hands and scrotum. The case was diagnosed as rhus poisoning, but, of course, it might have been one of dermatitis venenata from some other irritant other than the ivy. He thought that in nearly all cases the lesions would make their appearance much earlier than two weeks after exposure.

Syphilis Hereditaria Tarda (Twenty Cases). Presented by Dr. Post.

Dr. Post showed a series of twenty cases of late hereditary syphilis. The majority of these patients had been long attendants at the clinic. They were mostly the younger children of syphilitic families—the earlier cases having proved fatal in infancy. These cases varied in age from five to twenty years. They were chosen to represent the different varieties of the disease and especially to show how difficult it might be to recognize the disease when the patient was removed from parents and relatives and how valuable an atypical lesion might become in the diagnosis. In these twenty cases the upper central incisors were not always typically Hutchinsonian, but nearly all showed some of the different characteristics which went to make up the Hutchinsonian tooth and even this partial deformity became of great value when united with other signs which were of syphilitic origin. One of the older girls of this group, with a keratitis

which had caused her to take refuge as a pupil in the blind asylum, had had a peg tooth inserted in one of her upper front incisors. The habit of disguising the syphilitic incisors by false teeth was apparently growing. The cases of interstitial keratitis were proportionately numerous in this series.

Actual skin lesions were present in only one case and in that case there were deep circular ulcerations on the face, arm and lower extremity. Those on the face and arm were connected with the bone beneath. Those on the lower extremity were at the back part of the thigh and involved only the skin and subcutaneous tissues.

Cranial deformities were evident, though none of the cases were extreme. One little girl was mentally defective. Perhaps this one mentally defective case in twenty represented a fair average—though some of these cases were sure to show other nervous affections later if followed for a series of years.

One boy of eighteen was brought to the clinic as an infant in a desperate condition. His principal ailment during his life had been a swelling of both knees and generally an irritable nervous system. He now showed no evidence of syphilis except the concave shoulder blades, if they were to be considered evidence. He had a younger sister (there were only two children) who had a chronic heart lesion, presumably of syphilitic origin.

Swelling of the glands of the neck was quite frequent. These glands were often considered tuberculous and were removed by very extensive operations. One young woman was shown with an extensive scar on one side of her neck, which extended from just below her ear to her clavicle and along that bone. The glands on the other side had enlarged. She had interstitial keratitis and suggestive teeth. Other glands were plainly visible on the confines of the operative cicatrix. The glands on the unoperated side were disappearing under the action of anti-syphilitic medication. This swelling of the glands of the neck in hereditary syphilis was not recognized so widely as it should be.

Dr. Graves of St. Louis, the speaker said, had written several papers on a failure in development in the scapula. These poorly developed scapulæ he called "scaphoid scapulæ." He believed them to be indicative of hereditary syphilis. Many members of the Association witnessed a demonstration of these scapulæ by Dr. Graves himself in St. Louis. Dr. Post demonstrated these undeveloped scapulæ in this group of hereditary syphilitics by actual sight of the cases themselves and by radiographs, but said that while they were present in syphilis, he had not been able to convince himself that they were confined to syphilis and certainly they were not always present. If they were of value it must be that they were only an occasional and not a constant sign. Dr. Graves' claim that they gradually disappeared in succeeding generations, Dr. Post thought must be a deduction and not a record of actual observation. Their observation he hoped would lead to a more careful study of radiographs of

the bony skeleton in hereditary syphilis and perhaps help in finding other reliable peculiarities.

The last case of this group presented by Dr. Post was a case for diagnosis: Tuberculosis or hereditary syphilis? The patient was a girl, ten years old, with enormously enlarged glands in the neck, which had been present practically since infancy. She was a younger child of a syphilitic family. The tuberculin test and guinea-pig inoculations had given negative results. Under anti-syphilitic treatment there was only temporary improvement. The question arose, whether the case was one of tuberculosis or hereditary syphilis, or some other form of glandular hyperplasia. The Wassermann test had not been tried on this child, but it had been used on an older sister with negative result. In reply to a question as to whether heredosyphilitics were ever mentally precocious, Dr. Post replied that he was very sure that such cases occurred, though he could not at that moment recall a definite instance.

Dr. Wende said he had had the opportunity of seeing the original cases of so-called "scaphoid scapula" which Dr. Graves presented before the Section on Dermatology at the meeting of the American Medical Association in 1910. Dr. Graves said he could pick these children up on the street almost at random and in a large proportion of them he could demonstrate this malformation of the scapula, which he also associated with certain cardiac and arterial changes. Dr. Wende said that personally he did not think we should take the presence of this scaphoid scapula too seriously until we had investigated the subject in a large number of patients, irrespective of hereditary syphilis.

Dr. Engman said he had followed Dr. Graves' work in regard to the scaphoid scapula and he regarded it as a sign of malnutrition which might be found in other conditions than hereditary syphilis.

Dr. Shepherd said he had seen this malformation of the scapula in many asylum children, especially in imbeciles. He considered it of very common occurrence.

Dr. Post said he had shown this series of cases of hereditary syphilis in order to demonstrate the condition of the teeth and the scapulæ. He had not attempted to demonstrate that the scaphoid scapula was found in hereditary syphilis only. It was present in some of the cases he had shown, but not in all. Certainly, the question was well worthy of study.

Syphilis Treated with Salvarsan. Presented by Dr. Post.

Dr. Post showed the first patient to whom he had administered salvarsan last October. The dose was given subcutaneously below the scapula and a solid mass could still be felt where the drug had been injected. This patient had fought his disease for nine years. It had located in the nasal bones, which were practically destroyed. After the first injection, all signs of active disease disappeared. It returned in the ethmoidal cells at the end of three months when the salvarsan was repeated, this time intravenously; the disease again disappeared and had remained absent up to the present time.

A second case was exhibited to whom salvarsan was given the last of October by the intramuscular route in the buttocks. This patient showed very numerous cicatrices. He had had ulcerations which followed one another in rapid succession for eight years, in spite of very active treatment. They healed almost immediately after the salvarsan and had remained closed for over six months. This was a case of early malignant syphilis which salvarsan had healed, in which both mercury and potassium iodide had failed.

A Case of Syphilis of the Early Precocious Type Treated with Salvarsan. Presented by Dr. Smith.

The patient presented by Dr. C. M. Smith, was a young man infected the latter part of September, 1910. He subsequently developed a sore throat and a syphilitic roseola. Full doses of the protiodide of mercury cleared up the throat symptoms, but the eruption progressed. He was then given bichloride of mercury by mouth and subsequently gray powder, but the eruption which was papular in character, began to take on a distinct rupial appearance. Intramuscular injections of mercury failed to improve the lesions which were of the early malignant type. Potassium iodide was then added, without benefit. In March, 1911, the man received an injection of salvarsan; within ten days the crusts disappeared from the lesions and the skin was entirely smooth. The injection was given by the intravenous method.

Acne Varioliformis. Presented by Dr. Howe.

The patient was a young man who had had an eruption of necrotic papules which was particularly limited to the face, although there had been some lesions on the scalp and back of the neck. It began about a year ago last March. When presented, only the scars of former lesions were present.

Dr. Schamberg said he thought this case was closely allied to the group of eruptions that had been classed under the name acnitis and was very similar to the case he had reported a few years ago. The point of chief interest was whether there was an underlying tuberculous factor. In his case, Dr. Schamberg said, every known test, including guinea-pig inoculations, the use of tuberculin and the search for the bacilli was employed and they were all absolutely negative. It was his firm belief that his patient did not have tuberculosis and that the eruption was not dependent, at least in that particular case, on any tuberculous tendency; he felt that too much weight had been attached to the tuberculous architecture of the skin, the presence of giant cells having led some to the belief that these cases were tuberculous.

Dr. Engman said he thought the case belonged to the tuberculous group of acne. He had never seen an ordinary acne in which the ears were involved. Acne varioliformis was undoubtedly due to some form of staphylococcus and the staphylococcic vaccine gave the quickest results in these cases.

Dr. Fordyce said he thought we could eliminate tuberculosis in this case and might call the eruption either an acne varioliformis or an acnitis. He said that

acne varioliformis was probably a mixed infection. As to acnitis, we did not know its ætiology.

Dr. Pollitzer said he did not rise to discuss the case that was under discussion, but the discussion itself. He did not understand how any one could discuss this case in its present condition, as the lesions shown were simply residual. There was nothing left but the scars of former lesions, and in its present state, he could see no reason for questioning the original diagnosis of acne varioliformis.

Case for Diagnosis. Presented by Dr. Howe.

The patient was a girl who was eighteen years old when he saw her three years ago with an eruption which he supposed to be one of the tuberculides. It began in the form of small papules which developed into vesicles. The tip of the papule became pustular, then necrotic and the central body was cast off. All the lesions left scars and disappeared in the warm weather. With the onset of cold weather they reappeared in groups and disappeared without treatment when the warm weather came on. Sections were submitted by Dr. C. J. White for examination and he had reported as follows:

"The second nodule excised came from the deeper and older stage of the disease. Microscopically, there was no scar tissue present. The epidermis showed as its chief change vacuolization and œdema of the rete. The corium was sufficiently normal until the deep layers were reached. Here, there was a circumscribed nodule composed of mononuclear leucocytes and rather enlarged connective tissue cells. This infiltration permeated the whole local structure and between these cells could be seen distorted and more or less destroyed vessels and sweat glands. None of these structures appeared normal—all were more or less destroyed or obliterated. There were a few new (?) capillaries filled with polynuclear leucocytes. There was one *large* vessel whose coats were indistinguishable, whose disorganized lumen was choked with red cells and whose periphery, in a wide circle, was composed of necrotic connective tissue and broken down cells. All of this nodule lay in the fat tissue and the surviving cells were very large. Elastin persisted as long as the sweat glands could be identified. No tubercle bacilli were found. Clinically and histologically this disease resembled the hidradenitis destruens suppurativa described by Pollitzer."

Dr. Fordyce thought the eruption was a papulo-necrotic tuberculide.

Dr. Hartzell said he agreed with Dr. Fordyce that the case was one of papulo-necrotic tuberculide. The fact that it occurred in a much more aggravated form in Winter than in the warmer seasons, allied it very closely to conditions that were supposed to be associated with tuberculosis.

Dr. Pollitzer called attention to the fact that in this case the lesions began as a subcutaneous nodule, which could be felt, before it could be seen. The lesions originated deep in the corium and as they gradually reached the surface, the epidermis broke down. The question arose whether we should call such a case acnitis, or whether it was similar to the disease which he had described in 1891 under the title of "hidradenitis destruens suppurativa." The speaker was not at all convinced that the process had anything to do with tuberculosis. In reply to a question by Dr. Hartzell as to whether he still believed that the disease he had described was primarily inflammation of the sweat glands, Dr. Pollitzer said he did not.

Interstitial Keratitis Associated with Enlarged Glands in the Neck. Presented by Dr. Post.

The patient was a young woman with an interstitial keratitis and enlarged glands in both sides of the neck. On one side the glands had been removed by operation and on the opposite side they had disappeared under the use of hydrargyrum cum creta. The operation had been done with the idea that the glands were tuberculous.

Epithelioma of the Back (Paget's Disease). Presented by Dr. Towle.

The patient was a man, seventy-four years old, who stated that he had had the scaling plaque on the back for twenty-five years and the tumor for twenty years. The patient presented over the spine a lesion six or eight inches long, which extended from the level of the spines of the scapulæ downward. The area involved varied in width from two to four inches. Beginning at the uppermost border, the lesion presented over its first, second and fourth quarters, the appearance of a squamous eczema with pronounced exfoliation and redness, but with comparatively little thickening. Over the third quarter, however, the process was much more intense. Here, the skin was deeply involved. Its superficial, epidermal layers had been thrown off, leaving a raw surface exuding clear serum in moderate amounts. To the touch, this area was firm and well defined. Its color was bright red. In the midst of this area, a mulberry-like tumor projected for perhaps a quarter of an inch and whose surface was denuded of epithelium; it was bright red, finely lobulated and moist. A histological examination of a section made from the outer border of the infiltrated area through to the lobulated tumor revealed an epithelioma tous condition of the tumor and the skin immediately adjacent, but in the tissue more distant only a process suggesting a chronic inflammation without true epitheliomatous degeneration.

Dr. J. C. White said that while he did not recall this case, he had seen carcinoma of the skin of more than twenty-five years' duration. He had reported one case of ten years' duration and another of seven years.

Dr. Hartzell referred to a similar case that came under his observation. He would call the present case a Paget's disease or epithelioma.

Dr. Jackson said he had seen a similar lesion on the cheek of a man. It had been there about twenty years, and healed promptly under the X-ray. It never extended deeply into the tissue, but slowly spread with a narrow, crusted, superficially ulcerating border. Within the border, the skin was red, thin and papery looking—a superficial scar. Since he had healed the original lesion, similar ones had developed on the scalp behind and above the ear of the same side. They were easily destroyed by the curette and acid nitrate of mercury.

Dr. Hartzell said that in the beginning of carcinoma there were probably certain cellular changes before the invasion of the newly formed epithelium began and these were just as much a carcinomatous process as the down-growth of the epithelium.

Dr. Grindon said Massey had shown that certain chronic, inflammatory changes in the connective tissue, next to the epithelial layers, were constantly present as a precancerous condition. If his observations were verified, it would explain many things.

Dr. Fordyce said that to all intents and purposes, the early epidermic changes were malignant. They bore the same relation to epithelioma as did the early changes observed in Paget's disease to cancer of the breast. In some of those cases we found the epidermal cell changes, the same as in Paget's disease; in others we did not. While Paget's disease might have a distinct ætiology, clinically the flat, scaly epitheliomata were very difficult to distinguish from it.

Dr. Morrow said he recently saw an exact duplicate of this case in his office. In that instance, there was severe itching, with scaliness and redness and the lesion had the appearance of an old nævus undergoing a change. The case was treated with carbonic acid snow, with excellent results.

Dr. Engman said that one curious feature about this type of Paget's disease was that the lesions often underwent involution, especially those located on the back and sides. It was interesting to learn why they spontaneously recovered.

Lupus Erythematosus or Addison's Disease? (5 Photographs). Presented by Dr. Towle.

The diagnosis in the case of this woman had been most puzzling. Entering the skin ward in October 1910, she gave a history of the existence of the affection for several years (8 or 10). At the time of entrance the condition of the scalp was much as when presented. As was seen, there had been a marked loss of hair over the entire scalp in small, irregularly rounded areas, which were so numerous as to occupy the larger extent of the scalp area. These bald spots presented to the eye a dull white tone in whose centre there was frequently a brownish, pigmented area of irreglar shape and variable size. There were, also, plainly evident over their surfaces, minute plugs projecting slightly from the dilated mouths of the follicles, many being surrounded by a narrow, deeply colored zone of inflammation. Everywhere the scalp was thinned. The skin of the face was quite generally involved and presented appearances greatly resembling those existing in the bald areas on the scalp. Everywhere over the face, forehead and neck, were strewn innumerable dark, brownish-red flecks and roughened, slightly scaling, thickened patches covered with open, dilated follicle mouths and minute projecting epithelial plugs, giving to the skin at the same time a mottled and a rough, patchy appearance. But, whereas when presented, the brownish color was a pale café au lait, last October it was many shades darker. In the middle of the back was a large elongated patch suggestive of a seborrhœic eczema, which had existed many months and had resisted all treatment. The forearms, when presented, showed little or nothing, except a slight deepening in color. At the time of the first entrance to the hospital, however, the backs of both hands and the lower two-thirds of both forearms were quite dry, finely desquamative and brown. Moreover, the

upper edge of the areas involved was fairly well defined by a line drawn diagonally from the elbows on the outside to a point at about the middle of the forearm on the inside and characterized by a more profuse, flaky desquamation. The skin, however, did not show any especial atrophy. The dorsa of both feet and the lower two-thirds of one leg exhibited appearances similar to those described upon the forearms. Whereas the patient was in fair physical condition at the time of her first hospital stay, she now showed a decided loss of strength and vigor. The heart and lungs had never shown anything abnormal, but the urine had always suggested renal disturbance, in that it had constantly contained a large trace of albumin. Moreover, during her recent stay in the hospital, the patient had exhibited almost constantly, œdematous swellings of both lower eyelids, but more marked upon one side than upon the other. From time to time, too, the fingers of now one hand, now the other, had become swollen and shiny. The amount of urine excreted daily had not been abnormal, nor had the specific gravity. These facts considered together with the further fact that the blood pressure had not been over 120 cm. of mercury, would lead one to question whether the renal symptoms did not arise from an irritation of the kidneys without organic change and, also, whether the œdematous appearances might not be due to local conditions, as suggested by Dr. W. W. Gannett. At no time had there been any marked nervous involvement, nor any gastro-intestinal disturbance. While the diagnosis was still unsettled, the variance in the manifestations upon the extremities and upon the face and scalp justified the suspicion that, in this case, we had to do with more than one disease. Pellagra had been suggested as a possibility, but a diagnosis of Addison's disease or lupus erythematous or both was considered more probable.

Dr. Corlett said the symptoms seemed to suggest a disease of the suprarenals.

Dr. Schamberg said he had no diagnosis to offer, but simply wished to inquire whether thyroid extract had been used? There appeared to be a possibility that the woman's condition might have some relation to hypothyroidism. The dry skin, loss of hair and failure of memory would harmonize with such a view.

Dr. Ravogli said the loss of memory, the depression and the recurrent attacks of œdema suggested a myxœdematous condition and he advised the use of thyroid extract.

Lupus Erythematosus. Presented by Dr. Charles J. White.

The patient was a trained nurse, aged fifty-two. Two years ago a small red area appeared on the left temple. Six weeks later, similar areas developed on the cheeks and then on the scalp. All the lesions spread peripherally. The hair fell out. There was a moderate arteriosclerosis and the blood pressure was 170 mm. When presented, the above regions and the neck were more or less covered with an elevated, reddened,

infiltrated skin and it was not easy to state whether lupus vulgaris or lupus erythematosus was present.

Dr. Ravogli said he regarded it as a typical case of lupus erythematosus discoideus.

Osteomyelitis, Nerve Involvement, Ulcers. Presented by Dr. Towle.

This little girl, seven years of age, had had trouble with her foot for five years. According to the story obtained from her parents, the first sign of disease of the foot followed a blow from a falling stove-lid. Shortly after this trauma, the big toe became red and swollen and after some months a piece of bone protruded through the ulcer. (A radiograph was exhibited which showed the terminal phalanx of the big toe to be missing.) In the course of two years the toe was quite healed. For two years, so far as could be learned, there were no further symptoms of disease. Then, three years ago, a brace worn for a clubbed-foot, for some unexplained reason chafed the skin and produced an ulcer upon the dorsum of the foot and later a second upon the sole, which had persisted up to the time of entrance to the skin ward. The parents also asserted that in consequence of the awkward gait engendered by the brace, the girl stubbed her toes continually and that following the repeated trauma to the tips of the second and third toes, they fell off. When the girl was admitted, she was sent in with a diagnosis of leprosy, apparently because the ulcers refused to heal after long treatment and because no other diagnosis seemed to those recommending her admission to fit the case. An examination showed a girl very well developed and nourished, whose appearance and physical examination in no wise suggested the existence of any systemic affection. The organs were normal. The various sera tests were invariably negative. An examination by Dr. Baldwin, of the Neurological Department, showed, however, that the Achilles and plantar reflexes were entirely absent in both feet and also the knee jerk upon the same side as the affected foot. Dr. Baldwin suggested, and suggested only, that, possibly, the patient might be in the earliest stages of Friederich's disease. Under very simple protective treatment the ulcer upon the sole healed promptly. The ulcer over the dorsum of the fourth metatarsal remained open, while the clinical appearances changed almost from day to day. At one time the skin of the dorsum of the foot would be red and brawny, while a day or two later, these appearances would have disappeared entirely. Finally, a small spicule of bone was discharged from the ulcer. The radiograph showed, in addition to the loss of the terminal phalanx of the big toe, that the tips of the second and third terminal phalanges were also missing. Most striking of all, however, was the fact that the shaft of the fourth metatarsal (that is, the part directly beneath the dorsal ulceration) was entirely lacking. Of the bony shaft, nothing remained but the epiphyses at either end, from each of which a sharp pointed, triangular, jagged piece of bone projected toward the

centre. The diagnosis had been made, therefore, of a probably osteomyelitis superimposed upon a nervous (trophic) disturbance of the part.

Trophic Ulcer. Presented by Dr. Charles J. White.

The patient was a female, aged thirty-six, a dressmaker. This patient had a long surgical and dermatological history and had been in the hospital numerous times. Her adolescence was interrupted by numerous illnesses, including measles, scarlatina, diphtheria, mumps, multiple cervical abscesses, etc. On top of this history was the story of the death of five brothers and sisters in childhood, three of which were due to phthisis. The long persistent affection of the foot dated back twenty-four years. It began like chilblains (lupus pernio?), followed by atrophy and ulceration and total destruction of the toes, until all had fallen off progressively from the big toe outward. The present trouble consisted of an ulcer on the dorsum of the foot, accompanied by great pain, but controllable by hot water. The ulcer responded well to treatment and was nearly healed in sixteen days.

Dr. Ravogli thought there was a vasomotor trophic disturbance in this case. He would not call it a case of Raynaud's disease, but thought it was allied to that condition.

Xeroderma Pigmentosum. Presented by Dr. Charles J. White.

The patient was a female, Irish, aged eleven and attended school. Her brothers and sisters were living and well. This was the first example of this rare disease observed in the Massachusetts Hospital in only one member of the family and also the first case outside of the Russian Jews. At the age of three months, in the month of February, this child was taken out of doors for the first time. The following day the mother noticed a considerable erythema of the face followed at once by freckling which had persisted, receding every Winter and reappearing more intensely every Summer. At seven years of age, the eyes became "sore" and were examined and glasses were prescribed. One year ago, a growth developed on the right eye which had persisted and the visiting ophthalmologist recorded: "Pseudo-pterygium of right eye, scars on the left cornea and chronic conjunctivitis and blepharitis of both eyes." The present dermatosis was limited to the entire face, ears, neck, hands and forearms, most markedly on the face, where there were many pinhead to small pea-sized, reddish-brown to chocolate-brown macules, associated with a few punctiform or linear telangiectases. The interlying skin was atrophic, thin and wrinkled and, in places, desquamating. On the left ala of the nose there were keratoses, while on the right cheek a well-developed but small epithelioma was present. The child as a whole was undersized and the face looked pinched and old. She was kept in a darkened room by day and spent the evenings and nights out of doors. The

keratoses and the epithelioma were curetted and excised, and after a sojourn of six weeks in the ward the child, much improved in appearance, was transferred to the Eye and Ear Infimary.

Epidermis. The epidermis was very abnormal for the most part. In its most typical areas the layer as a whole was thin and the boundary between the corium and the palisade layer was indefinite and difficult to define—a precancerous state. Above this malformed basal layer there were only a few strata of spinous cells and these cells even were abnormal; some had large perinuclear halos, others were entirely wanting. Above these atypical layers, the granular cells were absent and, surmounting all, was a parakeratosis.

Corium. As a whole this portion of the skin could best be described as fragmentary. Below the most diseased areas, there were collections of lymphocytes seeming to connect with the broken epidermic line by a pedicle and spreading out below into a rounded mass of lymphocytes. In places, the sebaceous glands seemed irregular in their make-up. Vessels were not conspicuous and elastin resembled connective tissue in its disjointed appearance.

The epidermis of the non-ulcerated portion was very hyperplastic. The rete consisted of many layers of cells and, as one approached the epitheliomatous area, the boundary between epidermis and corium became ill-defined and epithelial down-shoots appeared. In the ulcerating epitheliomatous area, cellular confusion was conspicuous. Here, one could see all manner of degeneration—cavitary and ballooning especially. Scattered through this area were whirls and irregular masses of epithelial cells mixed up with a great outpouring of inflammatory cells. These epithelial masses showed cells of great size with central rarefaction. Widely dilated sweat glands occupied a conspicuous place in the picture, appearing very high up in the sections. In addition, there were many dilated capillaries and hypertrophied veins. The corium as a whole, was markedly disrupted by cellular invasions, principally lymphocytic. As one would infer from the foregoing description, elastin was conspicuous by its absence. On the whole, the histological picture was a remarkable one.

Dr. Trimble raised the query whether xeroderma pigmentosum ever began in adult life, or always in children? In a case shown before the New York Dermatological Society by Dr. Howard Fox, which was apparently typical, the affection began in adult life. In discussing that case, several of the members said it could not be xeroderma pigmentosum on account of its late development and they regarded it as a case of sailor's skin.

Dr. J. C. White said the first case of xeroderma pigmentosum occurring in this country was reported long ago, by the late Dr. Robert W. Taylor, who found several members of two families affected. Soon after that, Dr. White said, two cases came under his own observation. These were very dark-skinned patients and they were still alive. So far as he knew, the older one was the longest case on record, as the patient was now between forty-five and fifty years old. During the course of his disease he developed one patch of epithelioma on the trunk which was excised some years ago and there was no recurrence. The speaker said that in persons with a naturally dark skin the disease appeared to make much slower progress and was much less disposed to be fatal than in blondes and in the red-haired type.

Dr. Corlett said he saw a case some years ago in a native German of light complexion, who lived in Cleveland. At that time he had a rough skin, but was free from what could be termed a "skin disease." He then went to the City of

Mexico and when he returned to Cleveland, about fifteen years later, he had distinct xerodermic lesions, with several epitheliomata, but with rather slight pigmentation. In that case, Dr. Corlett said, he thought the dry, scaly skin was a predisposing factor.

Dr. Engman said that in 1894, while in Hamburg, he saw Unna show a number of these cases and many sections were made for microscopical study. This work had led him to the conclusion that there was a marked clinical difference between the changes observed in these sections and in those obtained from cases of sailor's skin. The early changes in xeroderma pigmentosum were epidermic, while those that occurred later in life were vascular and nutritional. In xeroderma pigmentosum the atrophy of the skin between the lesions was not so marked. Dr. Engman said he had seen cases where there were marked changes in the skin of the face and hands occurring after the age of twenty-five, but he would not classify those cases as xeroderma pigmentosum, which was an entity beginning in young children.

Dr. Corlett said he did not regard the case he spoke of as xeroderma pigmentosum, but it was closely allied to that affection.

Dr. Ravogli said he saw two cases of xeroderma pigmentosum which were sent to him from Kentucky with the diagnosis of leprosy. In that instance, where two children of the same family were affected, it was a peculiar circumstance that both parents were apparently in perfect health, while the children developed this disease and subsequently had several epitheliomata on the face. In Italy, the speaker said, when he was an assistant of Prof. Manassei, he saw two children affected in the same family, with xeroderma and multiple epitheliomata of the face and neck; this led him to believe that possibly there was an element of contagion.

Dr. Trimble said that this raised the question, what were we going to call these cases in grown people which were the exact counterparts of the cases in children? We had the same clinical picture, the same beginning epithelial changes, the keratotic lesions, the telangiectases, the epithelioma and, in fact, all the symptoms of the disease. If these cases were not xeroderma pigmentosum, we must find a name for them. In the opinion of the speaker, such cases occurring in adults, were those of xeroderma pigmentosum, the only difference being that the malady began later in life.

Dr. Engman said the cases in adult life were very similar to chronic radiodermatitis and we knew from the histology of the latter condition that the changes began in the vessels; this was also true in what we called sailor's skin. The two conditions were clinically and histologically similar.

X-Ray Dermatitis (Two Cases). Presented by Dr. Charles J. White.

Both patients were among the first to take up the practice of X-ray work in America (and one of them still pursued this occupation) and both men had suffered all the sequelæ possible, except death. Their skin was covered with lentigines, angiomata and was atrophic. Their hair was sparse. Ulcers, associated with excruciating pain, had led to scar tissue and many disfiguring operations. Carcinomata and all degrees of precancerous changes had been observed in the skin and there were but few fingers left to the two unfortunates.

Dermatitis Factitia. Presented by Dr. Charles J. White.

The patient was a man, half Indian, half American, aged forty, a coachman by occupation. Fourteen months previous to the exhibitor's first examination, the man was burned on the second finger by a live coal. "Blood poisoning and periostitis" developed and the finger was amputated at the second joint four months later. The stump healed in six to seven weeks, but the scar broke down immediately and the remainder of the finger was amputated and the wound healed in seven to eight weeks. At this time a new wound appeared on the upper arm and extended down to the elbow and still later, four more lesions developed on the lower arm and wrist. The nerves of the arm were then stretched by a surgeon and operation wound healed well. On entrance to the hospital the old scars were visible, but the man presented extraordinary looking lesions on the back of the right hand, forearm and upper arm. These lesions were one month old and consisted of oval, chocolate-brown, stratified, crateriform crusts from 4 to 5 cm. in their long diameter. From most of the crusts, one or two streaks of crusts ran down at right angles to the ground with the forearm flexed at 90°, representing a hitherto unobserved bungling (in any previous patient) in the application of the caustic. The man described the evolution of these lesions as beginning with a stinging pain followed by a small black spot which reached the maximum size in the course of a month, accompanied by an incessant, darting pain which was worse at night and in the cold. The neurological examination revealed a sharply bounded area of diminished sensation over the entire right side. Over this surface, including the cornea and nostril, there was no response to painful stimuli or to touch. During his visit, there was a marked hysterical seizure requiring very active sedative measures. Since his discharge in 1906, the man had been perfectly well and was presented to the Association, with his original photographs and his scars.

Dr. Knowles said he had seen several cases of this nature. In one case, a negro woman, there were self-produced, linear lesions between the fingers, which only healed after the hand had been placed in plaster-of-Paris. Subsequently, after suggestion, she produced similar lesions on various parts of the body. In another case, seen also by Dr. Hartzell, the patient produced a lesion which became gangrænous, necessitating amputation of several toes.

Ichthyosis Hystrix. Presented by Dr. Charles J. White.

The patient was a male, aged twelve and attended school. This boy was born blind, deaf and dumb and at the age of one and one-half years developed a strange anomaly of the skin. At entrance into the hospital, the face, neck, ears, nose, lips, genitals, legs and feet showed lines and plaques of papillary prolongations covered with brown-black integument. The whole skin was dry and harsh to the touch. The terminal phalanges of the fingers and toes were enlarged, some were inflamed and many were without nails. The hair was very sparse, dry and short. This condition

of the hair and nails was suggestive of the congenital and family cases reported by Nicolle and Halipré and by the speaker.

Mycosis Fungoides. Presented by Dr. Charles J. White.

The patient was an Irishwoman of sixty, whose disease dated back fourteen years, developing soon after the menopause as a dry, scaly eruption on the legs, slowly spreading to the back, neck and arms. The eruption had been universal for five years, but there had never been any marked pruritis. Four years ago, the first evidence of tumor formation appeared and was first noted in the axillæ, groins and flexures of the elbows. This example of mycosis fungoides had been remarkable for its emphatically exfoliative characteristics, rather than for any particular tumor formation. The skin for the last five years had been covered with large, papery, greasy (French pastry), flaky scales, partly adherent and this was the condition when she was presented, although the woman had nearly reached her end. The largest tumors never had exceeded the diameter of a silver half dollar, the smaller ones being pea-sized. Their histological structure coincided with our conception of the disease. The treatment consisted principally of the X-rays and arsenic. This controlled the tumors as long as the woman consented to pursue it. When the X-rays were no longer used the tumors reappeared and steadily grew larger.

Dr. Jackson said he saw a very similar case about a year ago in Detroit, where mycosis fungoides treated for months with the X-rays had turned into a chronic dermatitis exfoliativa with intense pruritus. The question arose in his mind whether the transformation had not been at least partly due to the X-ray treatment.

Acanthosis Nigricans. Presented by Dr. Charles J. White.

Dr. White presented a remarkable example of acanthosis nigricans. The full report of the case with the discussion appeared in The Journal for April 1912.

EXHIBITION OF PHOTOGRAPHS

By

DRS. BOWEN, C. J. WHITE and TOWLE.

Dermatitis exfoliativa (several photographs).
" factitia (eight cases).
" herpetiformis.
" medicamentosa, bromide eruption (3 cases).
" medicamentosa iodalbin, a fatal case (5 photographs).
" venenata, Brown-tail Moth.
Epithelioma, extensive discoid, of lid and cheek.
Ichthyosis hystrix.
Lupus erythematosus, multiple patches.
" " extensive butterfly form of face.
" " with Addison's disease (?).
" " with Addison's disease detail of face.
Lupus vulgaris, squamous type.
" " with two epitheliomata in scar.
Lupus vulgaris, extensive disseminated of leg.
Multiple fibromata.
Mycosis fungoides, tumor formations.
" " ulcerations.
" " tumor of cheek, detail.
Pellagra of hands.
" of genitals.
" details of hand and forearm.
Pemphigus foliaceus.
" " detail (2 photographs).
Psoriasis.
Sarcoma (2 photographs).
Scleroderma, nearly universal (2 photographs).
Syphilis annularis.
" papular, in a child.
" papulo-pustular.
Tinea tricophytina umbilicalis.
X-ray dermatitis, with ulcer and epitheliomata (2 cases).
Xeroderma pigmentosum.

DR. WENDE made a motion, which was promptly seconded and passed, to the effect that a vote of thanks be extended to Dr. John Collins Warren, of the Harvard Medical School; the Docent of the Boston Museum of Fine Arts; the Superintendent of the Boston City Dispensary, Dr. F. A. Washburn, Jr.; the Superintendent of the Massachusetts General Hospital, and, lastly, to the Committee of Arrangements, for the many courtesies extended during the meeting.

DR. SCHAMBERG moved that a vote of thanks be extended to the retiring officers, including the Secretary, who was not a retiring officer. This was unanimously carried.

DR. HARTZELL invited the members of this Association to attend a mid-winter meeting as the guests of the Philadelphia Dermatological Society.*

*A very enjoyable and successful mid-year meeting was held in Philadelphia on December 27, 1911. The transactions of this meeting will appear in THE JOURNAL during the Summer of 1912.

REVIEW OF DERMATOLOGY AND SYPHILIS.

Under the direction of
GEORGE M. MACKEE, M.D., New York.

Assisted by

LOUIS CHARGIN, M.D., New York.
FAXTON E. GARDNER, M.D., New York.
WALTER C. JAMIESON, M.D., Detroit.
FRANK C. KNOWLES, M.D., Phila.
BOLESLAW LAPOWSKI, M.D., New York.
ERNEST L. MCEWEN, M.D., Chicago.
AUGUSTUS RAVOGLI, M.D., Cincinnati.
FRANK E. SIMPSON, M.D., Chicago.
HARVEY P. TOWLE, M.D., Boston.
UDO J. WILE, M.D., New York.
FRED WISE, M.D.. New York.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Jan: 20, 1912, liv, No. 3).

Abstracted by FRED WISE, M.D.

Contribution to the Study of the So-Called Granuloma Annulare (Crocker).

KARL VIGNOLO-LUTATI, p. 77.

The author states that a great lack of unanimity exists regarding the identity of this dermatosis. His paper is based upon the following case: A girl, 13 years old; personal and family history negative. About a year ago she noticed a raised lesion on the dorsum of the left hand, near the little finger; it was rose-red in color, about the size of a copper cent, sharply defined, with raised periphery and sunken centre. Within seven months the lesion spread eccentrically, involving the first phalanges of the little and ring fingers, without subjective symptoms. The central sunken portion of the lesion showed a mottled-red color, much paler than the peripheral portion. Thin and adherent scales covered parts of the lesion. A small, flat erythematous patch, about two weeks old, occupied the first phalanx of the middle finger of the same hand. Within three months this lesion assumed the depressed centre and raised edge of the older lesion. The affection disappeared on administration of sodium cacodylate, leaving a small atrophic scar.

A portion including the raised edge was excised for examination. The epidermis rose abruptly at the junction of the normal skin and the periphery of the lesion; the horny layer was four or five times thicker than the normal; it rapidly became thinner as it slanted in toward the centre of the patch. The granular layer was not hyperplastic, but where the horny layer was thickened, the granular cells showed a functional hyperactivity, *i.e.*, they were richer in eleidin; the Malphigian layer was far more developed in the raised, than in the depressed portion; the papillæ and interpapillary spaces were hypertrophied at the edge, but normal toward the middle; in the derma, the papillæ were much larger and longer in the raised, than in the depressed part. The capillary vessels were enlarged and surrounded by infiltrating cells. The subpapillary, middle and deep layers of the derma presented irregularly distributed patches of infiltration, more or less circumscribed and arranged in parallel stripes.

The appearance of the infiltrate indicated that there was a communication between the superficial and the deep blood vessel plexuses. Higher magnification of the infiltrate showed that the blood vessels were enlarged in calibre, some of them surrounding the glomeruli of the sweat glands, others following their excretory ducts; the endothelium of the blood capillaries was swollen and hypertrophic, the nuclei projecting into the lumina; karyomitosis was observed here and there; in some places the endothelial cells were seen to multiply both toward the lumina of the blood vessels and around their peripheries. In the deeper blood vessels of larger calibre, the vaso-dilatation produced a separation of the smooth-muscle bundles, causing a retarded circulation, followed by a diapedesis, explaining the presence of mononuclear leucocytes, a few erythrocytes and mononuclear lymphocytes. Some spindle-shaped cells showing a fibroblastic tendency were seen at the edge of some of the infiltrated areas. Fixed chromophilic and connective-tissue cells could be seen amoung the perivascular infiltrations, lying between the collagenous bundles, indicating the tendency toward hypertrophic and fibroblastic changes in the tissues. A few mast-cells could be seen in the periphery, but plasma and giant cells could not be found. The cells of the depressed zone were of the lymphocyte type, while those of the raised, peripheral zone were of the fibroblastic type. The section showed that the process extended toward the periphery, where its activity was most manifest, whereas the centre of the lesion was in a state of rest. Evidences of necrosis or of phagocytosis were nowhere visible—an indication that the lesion was a chronic inflammatory process of the sclerotic type. The elastic tissue in the depressed area took the normal acidophile stain and was decreased in quantity, especially near the infiltrations; while in the peripheral zone the elastic tissue stained poorly, due to the mild œdema of the derma. As to bacteria, none could be found.

The author then discusses the cases of this dermatosis described by other observers, their varying characters and different nomenclature. (*To be continued*).

Late Syphilitic Erosive Papules of the Female Genitals, Nearly Twenty-four Years After Infection, Showing Spirochætæ Pallidæ and a Positive Wassermann. Ludwig Nielsen, p. 86.

A woman, now 48 years old, was given thirty inunctions in the year 1888. She presented at that time, a chancre, mucous patches, adentitis and a papulomacular rash. All symptoms having disappeared, she left the hospital and received no further treatment. Her three pregnancies resulted in abortions.

In August, 1911, the patient again presented herself with eroded, hyperæmic syphilitic papules of the vulva. Scrapings from these revealed numerous spirochætæ. The Wassermann test was strongly positive. Aside from a moderate adenitis, she had no other syphilitic symptoms. Under inunctions and calomel powder, all lesions disappeared. The husband of this patient denied having had syphilis and showed a negative Wassermann on three successive occasions. During the intervening twenty-four years, the woman had apparently no evidences of the disease, unless the three abortions are regarded as symptoms of syphilis. The author believes this to be an example of late syphilis, not one of re-infection. He points out the important fact that these late lesions are most apt to appear on the mucous membranes of the genitals and the mouth, regions from which others are most easily infected. Fournier's statistics on late secondary lesions of the mucous membranes are interesting: of 1,100 cases, he found mucous membrane lesions in 541; of these, 434 were buccal lesions, 107 were genital; of the latter, 102 were in males, while only 5 were in females.

In conclusion, the author emphasizes the fact that the contagiousness of syphilis may persist for a much longer time than is commonly supposed.

(*Ibidem.* Jan. 27, 1912, liv, No. 4).

The Intradermal Reaction in the Diagnosis of Syphilis. Artur Fontana, p. 109.

The author's article begins with a short resumé of the investigations carried on in recent years, in the field of cutaneous and intradermal reactions in lues. The apparent lack of uniformity obtained by the various authors, led him to go over the same ground, his results being controlled by the Wassermann reaction, and also to experiment with substances which would, theoretically, lend themselves to the intradermal reaction in syphilitic subjects. He compared his results by control tests in the non-syphilitic. No experiments in the cutaneous reaction were undertaken.

He employed the following substances in this work: 1. Syphilin, a glycerine extract of mucous patches, rich in spirochætæ. 2. A 10 per cent. solution of sodium glycocollate in distilled, sterile water. 3. Lecithin, in the form of phospho-plasmin. 4. Extract of guinea-pig's heart. The inoculations were made under strict asepsis, the patients being examined twenty-four hours later; the reaction was regarded positive when a distinct nodular infiltration was obtained.

The reaction was carried out in 51 luetics and in 16 non-luetics. Of the former, 27 (53%) and of the latter, 2 (12.5%), were positive. The results were not influenced by anti-syphilitic medication. Of 40 luetics, 34 or 85 per cent. had a positive Wassermann and 19, or 47.5 per cent., had a positive syphilin reaction. With the glycocollate solution, of 29 luetics, a positive reaction obtained in 12 cases (40%); in 15 non-luetics the results were negative. Of 22 syphilitics in whom both the Wassermann and the glycocollate solution were employed, 18 (81.8%), showed a positive Wassermann and 6 (27%), a positive glycocollate solution reaction. The lecithin reaction was positive in three instances, out of 18 luetics and 16 non-luetics. The guinea-pig's heart extract was tried in three luetics, giving positive reactions, and in ten non-luetics, two of which were positive.

The author concludes that of these substances, the syphilin may become of some use in the future. In a postscript, mention is made of Noguchi's recent work with luetin.

Contribution to the Study of the So-Called Granuloma Annulare (Crocker). (Conclusion). Karl Vignolo-Lutati, p. 114.

A thorough and painstaking review of the literature of this dermatosis is here presented. The author then discusses the relationship existing between granuloma annulare and erythema elevatum diutinum. It must be admitted, he says, that the two diseases show marked clinical differences, in that erythema elevatum diutinum appears acutely, in various localities at the same time, and is accompanied by malaise and articular pains; whereas granuloma annulare appears gradually, has no concomitant symptoms and presents a single lesion appearing on the back of the hand, in the shape of a ring. Histologically, granuloma annulare shows a characteristic granulomatous tissue, while erythema elevatum diutinum presents the picture of a chronic erythema.

The author believes that we are dealing with a chronic inflammation, which may either gradually acquire the sclerotic type, or may assume a dystrophic character or, finally, may be a mixture of both. In the chronic dermatitis of the sclerotic type, the connective-tissue cells and the mononuclear leucocytes become fibroblasts, resulting in the formation of compact bundles; in chronic dermatitis of the dystrophic type, the connective-tissue cells become giant cells

and epithelioid cells (granuloma). In other words, in this chronic inflammation of the nodular type, the neoplastic stage is followed successively by a degenerative (dystrophic) stage and a necrobiotic stage. From his investigations, the author believes that granuloma annulare should be considered in a class by itself, its pathological characteristics making it an entity, while its insiduous development, chronic course, predilection for the dorsum of the hand, ring-shaped efflorescence and the absence of articular symptoms differentiate it from other related dermatoses. Until further investigations reveal the ætiological factors of granuloma annulare, the disease must be placed under the caption of the chronic erythemata.

(*Ibidem.* Feb. 3, 1912, liv, No. 5).

Chilblain-Lupus (Hutchinson) and Lupus Pernio (Besnier-Tenneson). Siegfried Grosz, p. 133.

Ehrmann (in the Festschrift for P. G. Unna) wrote an article entitled "What is Chilblain-Lupus of Hutchinson and what Lupus Pernio of Besnier-Tenneson?", in which he states that many authors regarded these two dermatoses as being identical. According to Jarisch-Matzenauer, the disease is clinically related to lupus vulgaris on account of the passive hyperæmia and the telangiectasia which accompanies it. The disease under discussion differs from ordinary chilblain on account of the later appearance of typical lupous nodules or other manifestations of tuberculous disease (Besnier). Lenglet, in *"La pratique dermatologique,"* places these conditions under the caption of lupus erythematosus. In Hutchinson's description of chilblain-lupus he says that the disease is manifested by the appearance of acne-like tuberculides, erythematous lupus and pernio, in conjunction with vascular dilatations on the hands and face. Ehrmann thinks that the relation between lupus erythematosus and the papulo-necrotic tuberculide may be revealed by the histological findings in these dermatoses. Lupus pernio (Besnier) has frequently been alluded to, in numerous text-books and papers as a form of lupus erythematosus. Tenneson (*Bull. Soc. de dermat. et de syph.,* Nov. 10, 1892), describes a case of lupus pernio associated with tumor formation, lupus nodules and circumscribed cell accumulations, the last on a level with the sweat-glands and composed chiefly of epithelioid cells and a few giant cells of the Langhans type. Klingmüller considers lupus pernio to be a tuberculous disease and advances a number of reasons for so thinking: 1. It resembles lupus histologically. 2. The lupous nodules may develop into true cutaneous tuberculosis. 3. One of his cases showed a local tuberculin reaction. 4. The chronicity of the disease and its resemblance to scrofulo-tuberculosis, in the occurrence of necroses, fistulæ and bone affections. Both Klingmüller and Kreibich believe, however, that these facts are not to be depended upon to prove that lupus pernio is a tuberculous disease. Zieler, after making a study of cases of erythema induratum, sarcoid of Boeck and lupus pernio, concludes that the last named disease has no relation to tuberculosis, but is an independent chronic, infectious granuloma. He thinks that the above named dermatoses should be grouped under the heading of granuloma pernio or erythema pernio. Ehrmann, Zieler and Kreibich deny the relation between lupus pernio and tuberculosis and substitute the name lympho-granuloma pernio. Jadassohn, on the other hand, is a strong supporter of the tuberculosis theory; the fact that lupus nodules frequently appear in the neighborhood of lupus pernio patches and the similarity in the histological pictures as compared with tuberculous affections, gives him the impression that the disease is closely related to the tuberculides and to erythema induratum and is of hæmatogenous origin.

(*Ibidem.* Feb. 10, 1912, liv, No. 6)

The Roentgen-Ray Treatment of Darier's Disease. HANS RITTER, p. 165.

The author quotes a large number of authorities on the almost hopeless results obtained from the ordinary forms of treatment in this dermatosis. Herxheimer reports excellent results in three cases, after the use of the Paquelin cautery. Ritter describes a case of Darier's disease in a woman of thirty-five, in whom the eruption was almost universal and who had been treated for a number of years by every conceivable method, without benefit. Thermocauterization produced ugly pigmentations and scars, besides being so painful that the patient refused to submit to the treatment. The X-ray treatment was begun in 1909, sufficient time having elapsed to judge of the permanency of the results, for in these two years a cure seems to have been accomplished. Usually two successive doses of 10 X, Benoist-Walter 5, were required to bring about a disappearance of the hyperkeratoses in the exposed area. The entire body-surface was irridiated—a single area at each sitting—until practically no trace of the disease was to be seen. The clinical diagnosis was verified by the microscope. Ritter states that the only record he can find of the X-ray treatment of Darier's disease is the one by Lieberthal (*Jour. Amer. Med. Assn.,* July and August, 1904).

Concerning Iodocitin, A New Iodine-Lecithin-Albumin Preparation. CHRZELITZER, p. 168.

Investigations during the last thirty years have proven the importance to animal and plant life, of the combination of glycerine-phosphoric-acid, higher fatty acids and cholin. This substance, lecithin, cannot be replaced by any inorganic phosphates. Experiment has shown that lecithin is especially valuable in disturbances of nutrition, as in cachexia, rickets, dyspepsia, neurasthenia, anæmia, diabetes and in convalescence, producing an increase in appetite and general well-being. Numerous investigators have proven that lecithin produces a very marked increase in red-blood cells and that it has a stimulating effect upon cell protoplasm. Hence its beneficial results in the above-mentioned diseases and in patients weakened by excesses and by old age. Koch has shown that if lecithin is withdrawn from the blood, the calcium is precipitated and is redissolved upon the addition of the lecithin, a property which should lend its value to the treatment of arteriosclerosis. As a nerve-tissue builder and stimulator, lecithin has attained a permanent place in therapeutics. The lecithin in the nerve tissues is being constantly used up and replenished in the healthy, but suffers a marked decrease in certain diseases of the central nervous system, as Peritz has shown to be the case in paralytics. It is a noteworthy fact that the Wassermann reaction in tabetics often changes from positive to negative after the administration of lecithin. After a year's use of iodocitin, the author has come to the conclusion that this lecithin combination is of great value, not only in such cases as the above-mentioned, but in all cases in which iodine-medication is indicated, as no symptoms of iodine poisoning have ever manifested themselves after its employment. This is partly due to the fact that the iodocitin is not split up until it reaches the duodenum and is eliminated from the system within forty-eight hours. The author obtained the most brilliant results in cases of syphilis showing a positive Wassermann reaction in spite of all forms of treatment, salvarsan included; he cites a number of such instances, where the administration of iodocitin produced the desired change in the reaction from positive to negative.

(Ibidem. Feb. 17, 1912, liv, No. 7).

Reinfection and "Solitary Secondary Effect" After Salvarsan Treatment. Hanacek, p. 189.

Since the introduction of salvarsan, numerous cases of so-called solitary secondary effects and reinfections have been reported. Hanacek herewith contributes a case under the observation of Spiethoff, which he declared is an example of true reinfection.

The patient, 23 years of age was the father of a healthy three-year-old child. He presented two eroded scleroses in the sulcus of the penis, three weeks after coitus. The inguinal glands were enlarged; spirochætæ were demonstrated; the Wassermann was negative. Within the following month he was given one intrascapular and two intravenous injections of salvarsan, the chancres disappearing; a roseola failed to appear. The Wassermann remained negative. Two months later (April 23), a lentil-sized erosin appeared on the prepuce, but not on the same spot as that occupied by the previous lesion. The Wassermann was still negative. The patient stated that the lesion was a week old and had appeared three weeks after coitus with his wife, namely, about seven weeks after having received the last salvarsan injection. This new erosin was indurated, the inguinal glands were enlarged and painless. The man's wife had mucous patches and a roseola. The husband was given three more salvarsan injections; the Wassermann remained negative; no secondaries had appeared to date (January, 1912).

The author records another case the pathogenesis of which he cannot explain satisfactorily. A male of 24, acquired a genital infection 2½ years ago and received mercurial treatment. Beneath the tongue he had a luetic plaque, about the size of a five-cent piece; no other mucous-membrane lesions were present; there was moderate glandular enlargement; the Wassermann was negative. Within the next three months he was given three salvarsan injections, the blood-test remaining negative. Four weeks after the last injection, an indurated sore appeared on the glans penis; no spirochætæ were to be found; local treatment was purposely withheld, the induration and extent of the lesion rapidly increasing; no secondary symptoms appeared; after a few weeks this sore disappeared, leaving a small scar. The patient stated that his first chancre occupied a different site. The Wassermann reaction was always negative. The man admitted that after his dismissal from the hospital he had frequently exposed himself to fresh infection, leaving the question of a reinfection open. The identity of this genital lesion remains in doubt; were it a gumma, it would not have disappeared spontaneously in such a short space of time and would have caused a larger and deeper scar; nor did it develop like a gumma, as the infiltrate formed around the ulcer, instead of the ulcer being the result of the breaking down of the infiltrate. Clinically, the lesion suggested a "solitary secondary effect," while from a pathogenetic standpoint a "récidive" or a new infection must be considered. The author thinks that this was an example of super-infection and that the atypical nature of the sore was due to the effects of the salvarsan which the patient had received a month previously.

The Influence of Ritual Circumcision Upon the Contagiousness of Venereal Affections. P. A. Pawlow, p. 197.

In this article Pawlow sets forth his views, based on a period of observations extending over twenty years, as to whether hard or soft chancres are more frequent in the uncircumcised (Gentiles), than in the circumcised (Jews and Mohammedans). As to gonorrhœal infection, he states at the outset that the presence or absence of the foreskin has no bearing on the frequency of contagion in this disease. Needless to say, this is a question upon which a large number

of authorities hold diametrically opposite views; hence the writer has limited himself to observations based purely upon statistical evidence. During the early years of his career the writer was struck by the far greater frequency of infection with hard and soft chancres in the uncircumcised, than in the circumcised. He therefore decided to observe and to record the exact sites, upon the genital organs, of the hard and soft lesions occurring among the Gentiles, Jews and Mohammedans who sought his advice. In deciding the question of the utility of circumcision as a prophylactic measure, the nature of the lesion, whether hard or soft, is not to be taken into consideration—it is only the frequency of infection with either form of disease that should be noted.

As a standard of comparison between the frequency of infection in the circumcised and the uncircumcised, Pawlow followed Hutchinson's suggestion, by taking the incidence of gonorrhœal infections in all classes of males as a criterion. He states that the relative frequency of gonorrhœa in all denominations in Moscow is about the same. Attention is called to the fact that the occurrence of the non-venereal affections, such as balanitis, balanoposthitis etc., obtaining in the uncircumcised, is prone to cause abrasions of the epithelium, thereby predisposing these cases to chancroidal and luetic infection. This circumstance is taken into account in the following table:

A. Number of uncircumcised patients	7,065
Of these, those with	
1. Non-venereal affections of the genitals	1,108
2. Gonorrhœa and its complications	3,289
3. Hard and soft chancres	1,773
4. Syphilis with unknown site of chancre	895
B. Number of circumcised patients	412
Of these, those with	
1. Non-venereal affections of the genitals	21
2. Gonorrhœa and its complications	299
3. Hard and soft chancres	70
4. Syphilis with unknown site of chancre	22

Comparing the relation between the gonorrhœal cases and the cases with hard and soft chancres, in both groups, the following results are obtained:

	A. Uncircumcised	B. Circumcised.
1. Relation of hard and soft chancres to gonorrhœa,	1,773 : 3,289 = 0,538.	70 : 299 = 0,234.
2. Relation of lues with unknown site of chancre, to gonorrhœa,	895 : 3,289 = 0,272.	22 : 299 = 0,073.
3. Percentage of local infections, of the total number of cases,	1,108 : 7,065 = 15,68%.	21 : 412 = 5,09%.

These tables show that hard and soft chancres occur about three times more frequently in the uncircumcised and that the non-venereal affections in these patients are practically absent. With reference to the important question of the site of the lesions on the genitals, Pawlow submits the following table:

	A. Uncircumcised.		B. Circumcised.	
	No. of cases.	%	No. of cases.	%
1. Lips of meatus and vicinity	40	2,2	2	2,8
2. Glans penis	94	5,3	4	5,7
3. Prepuce, corona	1549	87,3	27	38,5
4. Corpus cavernosum	69	3,8	25	35,7
5. Peno-scrotal junction	10	0,5	10	14,3
6. Scrotum	11	0,6	2	2,8
Total	1773		70	

This table shows that in Group A, the affections are chiefly those of the foreskin and the corona (87.3%), the sites of predilection for hard and soft chancres; the other portions of the external genitals are infected in only 12,4 per cent. This is due to the fact that balanitis, balanoposthitis, etc., are likely to produce abrasions which form portals of entry to the luetic and chancroidal poisons. In Group B, it will be noticed that the corresponding figures in the two halves of the table, with reference to items 1 and 2, do not show much relative variation. The conclusion to be drawn from this fact is, that the absence of the foreskin seems to have no tendency to retard infection on the glans, the meatus and its vicinity; if anything, the contrary is the case. The author believes this to be due to the supposition that the absence of the prepuce permits a dryness of the glans, which predisposes it to fissures, abrasions and trauma during coitus—open doors to infection. The third item, which expresses the relation between venereal affections of the foreskin and corona, to the total number of genital lesions, shows a percentage twice as great in the uncircumcised than in the circumcised. But, on the other hand, it will be seen that the percentages in the following items (4, 5 and 6), exceed, by far, those in Group B, that is, in the circumcised. Therefore, in spite of the absent foreskin, and the consequent avoidance of balanitis, etc., it seems that the corona and the scar of the circumcision, are, after all, the most favored sites of infection. Hence the conclusion is drawn that circumcision does not protect the most susceptible portion of the organ against infection. As to the corpus cavernosum, Pawlow believes that it is much more prone to infection in the circumcised—an opinion borne out by item 4, of the table. The same applies to item 5 and item 6. Another explanation of these higher percentages in the circumcised is, that during erection of the organ, the skin is under greater tension and is therefore more liable to abrasions, etc., during coitus. Absence of the foreskin is also said to diminish the cutaneous sensibility of the penis, resulting in a more prolonged act of coitus, thereby increasing the likelihood of epithelial traumatisms.

Summing up, Pawlow says that if it be conceded that circumcision is really instrumental in warding off local infections, it is merely due to the consequent absence of the occurrence of phimoses, with their tendency to be the seat of abrasions and trauma. He thinks that the dryness of the skin consequent to the absence of the prepuce is a disadvantage greater than the possession of the prepuce itself. The question of making the operation of circumcision an obligatory prophylactic measure should not be tenable, for—so Pawlow thinks—a clean foreskin is better than no foreskin at all.

(*Ibidem.* Feb. 24, 1912, liv, No. 8).

Concerning Syphilitic Reinfection. Bettmann, p. 222.

This article has reference to the paper published in the *Dermatologische Wochenschrift* (liv, Nos. 1 and 2) by von Veress. (Abstracted in The Journal for April, 1912). Von Veress stated that in his opinion the numerous instances of reinfection which have been recently reported, are nothing more or less than pseudo-scleroses, *i. e.*, forms of "récidives," and quotes Bettmann as an authority. Now Bettmann comes forward and says that he does not believe in quite such a sweeping statement—that some of these reported reinfections are bona-fide cases of syphilitic reinfection. He says that the most sceptical man cannot deny the probability of an abortive cure of lues and the possibility of reinfection. But the differentiation between an initial lesion and a pseudo-chancre is by no means an easy matter, and it is not to be wondered at that a large element of doubt is injected into these case reports. For example, the author recites the following instance: A male of 21, presented himself (on Dec. 13, 1910) with a large

chancre of the lower lip; the duration was eight days. Adenitis was present; the Wassermann was negative; spirochætæ were found. After two intravenous injections of salvarsan, all symptoms disappeared. The Wassermann taken frequently until August, 1911, always remained negative. Between the fourth and seventh of November, the patient cohabited with a prostitute; on November 25, he noticed two small ulcers on the penis; examination on the fourth of December, 1911, revealed two typical chancres of the prepuce. Adenitis was present; spirochætæ findings were positive; the Wassermann was doubtful. The lesion receded rapidly under salvarsan and mercury.

We are confronted with two possibilities: this is either a true reinfection following an abortive treatment, or else it is a pseudo-chancre manifesting itself as the first "récidive" of his infection. The extragenital location of the first chancre excludes a "récidive" *in loco;* still, a pseudo-chancre need not necessarily appear on the same spot as did the initial lesion. It should be mentioned that the patient had scabies lesions on the penis at the time of the second infection, explaining the occurrence of two ulcers. Since Bettmann has been giving mercury in combination with salvarsan, the so-called early "récidives" of the skin and the neuro-récidives which he had previously described, have ceased to appear. In the case cited above, it is a question whether the two successive salvarsan injections given to the patient without subsequent mercury, can be considered a "cure" of his first infection. This question cannot yet be definitely decided and upon it hinges the whole problem of true reinfection. In the example cited above, however, Bettmann strongly inclines to the view that it is an instance of reinfection, not a "récidive," nor yet a pseudo-chancre.

A Case of Eucalyptus Exanthem. M. Oppenheim, p. 224.

This is a case of dermatitis medicamentosa, following the ingestion of oil of eucalyptus, which the patient took in the form of bon-bons, sold under the name of "Cough-not." The patient was a male of 36, a tailor by occupation. The back of the hands, the palms, the fingers, the wrists, as well as the dorsi of the feet, presented an eruption consisting of pea-sized, bright-red, cherry-red and brownish-red papules and nodules, most of them sharply circumscribed, but becoming confluent on the fingers and toes. On the palms and soles the confluence of the papules was very well marked. The nodules were infiltrated and the color did not disappear on glass pressure. Hæmorrhages appeared here and there. Scaling was absent. The rest of the skin and the mucous membranes were free. Slight itching was present. With the recession of the exanthem, it assumed a yellowish-brown color. The rash was preceded by anorexia, insomnia, malaise and fatigue, appearing two hours after the last dose of the drug was taken.

Methods for the Quantitative and Qualitative Measurement of the Roentgen-Rays in Dermatology. A. Gunsett, p. 226 .

For practical purposes, only the chemical properties of the X-rays lend themselves to convenient measurement of dosage, and Holzknecht was the first to perfect an instrument for this purpose. In this he utilizes the color-changing effect of the rays upon a reagent, a certain, fixed gradation of tint representing a standard for the normal dose. (A normal dose is one which produces a paralysis of the cells of the hair-papillæ of the scalp, causing a defluvium without exciting an erythema. Hence the term "erythema dose" should be dropped.) Beside Holzknecht's apparatus, the quantimeter of Kienbock and the dosimeter of Sabouraud-Noiré are still in use. Kienbock's instrument is based on the effect of the rays upon the photographic plate. A strip of silver bromide paper is

exposed with the irradiated portion of the skin under treatment, and is later developed; the degree of darkening is then compared with the normal scale, which consists of paper strips graduated in tints from black to a delicate light gray. The scale is divided into quantimetric units, each unit representing X. Ten of these units equal a normal dose. The process is somewhat complicated and inconvenient. Kienbock himself advocates the use of Sabouraud's pastille in conjunction with his instrument. In the Sabouraud-Noiré device, a platinocyanide of barium tablet (about one-quarter inch square) is exposed until its light-green tint is changed to a marked yellowish-brown. The green is designated Tint A and the brown Tint B. The tablet is placed at the exact mid-point between the surface of the treated skin and the anodal focus; the normal dose is arrived at when Tint A has acquired the same shade as Tint B. The disadvantage of this device is, that no intermediary doses can be read during the irradiation. For example, Tint B represents 10 X, the normal dose on the Holzknecht scale; now, suppose the operator desires only a fraction of this normal dose (as he may in cases of eczema, psoriasis, etc.), with the Sabouraud device he would hardly be able to attain the desired dosage.

H. E. Schmidt's method is as follows: the normal dose is measured by means of a tube which had previously been standardized with Sabouraud's dosimeter, this tube being always used under the same (constant) electrical conditions, *i. e.*, the same milliamperage and parallel spark distances. Thus, if twenty minutes are required to produce a dose of 10 X, then an exposure of ten minutes will result in a 5 X dose, etc., provided the electrical factors remain constant. This is a combination of the direct and the indirect methods of measurement. Holzknecht says that this method of standardizing a tube is merely a self-delusion. He therefore devised a scale, somewhat on the principle of a hæmatometer, in which tint-gradations between the Tint A and Tint B of Sabouraud may be easily read off the face of the apparatus. (*To be continued*).

(*Ibidem*, March 2, 1912, liv, No. 9).

Nævus Linearis Systematicus. Richard Kantor, p. 245.

The patient was a boy of nine, anæmic and somewhat poorly developed, physically; mentally normal. On various parts of the cutaneous surface he had a number of multiple, irregularly scattered accumulations of hyperkeratoses, which resembled rough warts. He had patches on the right arm, beginning at the wrist and running up the forearm as a narrow band; another patch on the dorsum of the right hand, showing a regular linear grouping, with here and there crusts due to scratching; similar linear groups were seen in the axillæ, on the sides of the neck, on the trunk, the scrotum, the legs and the buttocks. The unaffected parts of the skin showed a mild grade of ichthyosis. The affection was present since birth. As a biopsy was not permitted by the boy's parents, the important question of the presence of nævus cells in the verrucous lesions could not be ascertained. In another similar case, no nævus cells were discovered; the author believes that these hyperkeratoses are merely evidences of strongly developed ichthyosis. In regard to the probable cause of linear nævi, Kantor believes with Blaschko, that they are due to disturbances in the embryonal development of the skin.

Soft Chancre Healed with Salvarsan. P. Pawlow, p. 248.

The author mentions numerous instances in which salvarsan acted as a healing agent in non-luetic lesions, *i. e.*, in psoriasis, lichen planus, experimentally produced wounds in mice, etc., and other affections such as lepra and pityriasis rubra of Devergie. In many of these experiments the Herxheimer reaction was

present. Pawlow concludes that salvarsan is not parasitotrophic alone, but is also organotrophic. He gave a patient who had both a hard and soft chancre, the salvarsan treatment. This man, aged 23, appeared in his clinic on Feb. 8, 1911. On the inner surface of the prepuce were seen one large and a number of small, typical chancres, from which the strepto-bacillus of Ducrey-Unna was isolated. On the sulcus coronarius the patient had a typical hard chancre, from which the spirochætæ pallidæ were demonstrated. On Feb. 12th, the man received 0.6 gm. of salvarsan by intramuscular injection. No local treatment was applied. On Feb. 22nd, the hard chancre was healed; the soft chancres were healed three days later. At the time of the injection, the hard chancre was undergoing resolution, while the soft chancres were still in the destructive stages. The appearance of a sharp Herxheimer reaction around the soft chancres is ascribed by the author, to the specific action of the salvarsan. In this case, it may be assumed that either the salvarsan had a direct destructive action on the Ducrey-Unna organism—parasitotrophic action—or that the local reaction around the soft chancres produced an increased phagocytic power of the leucocytes in the parts affected. This may be assumed to be the case on account of the presence of the Herxheimer reaction.

Pawlow does not recommend the use of salvarsan as a routine treatment for soft chancre; but he thinks it will prove to be of great use in the obstinate, phagadænic and gangrænous types of the disease, which frequently fail to respond to less heroic measures.

Methods for the Quantitative and Qualitative Measurements of the Roentgen Rays in Dermatology. (Conclusion). A. Gunsett, p. 252.

Hans Meyer's method of dosage is based on the physical law of light: the further the illuminated surface is from the source of light, the less will be the strength of light, the latter varying inversely as the square of the distance. Sabouraud's pastille is placed in the middle of the focussing distance to produce the Tint B, the normal dose. It follows, therefore, that fractional doses can be obtained if the distance of the exposed surface from the cathode is increased, the tablet (or pastille) occupying the same position as before. In this way, the normal dose may be divided into ten parts, analogous to Kienbock's units and the required distance for each unit can thus be obtained. For example: Take a tube with a distance of 5 cm. from the cathode to the wall of the tube and place the pastille 3 cm. away from the wall of the tube. The normal dose will then be 10 X, if the skin is at a distance of $8 + 8 = 16$ cm. from the focus. Assuming that half of the normal dose, $(= 5\,X)$ is desired, how far must the skin be removed from the focus? Let i represent the intensity of light for an erythema dose.

Let i_1 represent one-half of the above.
Let a represent the required distance.
Let b represent the normal dose distance. Then

$$\frac{i}{i_1} = \frac{a^2}{b^2}$$

Substituting the equivalent values, we obtain:

$$\frac{10\,X}{5\,X} = \frac{a^2}{16^2} \text{ or, } a^2 = \frac{16^2 . 10}{5} = 512.$$

$$a = \sqrt{512} = 22{,}6.$$

To obtain 5 X, therefore, the skin must be placed at a distance of 22.6 cm. from the focus, in which the focussing dose distance is 8 cm. In the same manner, a dose of 8 X requires a focus distance of 17.9 cm.

From this, the following table is evolved:

TABLE 1.

Focus—dosimetric distance, 8 cm.

Dose	10 X	9 X	8 X	7 X	6 X	5 X	4 X	3 X	2 X
Focus skin distance, cm.	16	16,9	17,9	19,2	20,6	22,6	25,3	29,3	35,9

Hence, to obtain a dose of 3 X, the skin is placed at a distance of 29.3 cm. from the focus and is exposed until the pastille assumes the color of Tint B.

Hans Meyer has devised a very ingenious apparatus, by means of which this method of divided dosage may be used with great facility. In the use of this method of dosage, the divergent rays from the anode, falling upon the plane surface of the skin, have to be considered in order to eliminate the varying amount of irradiation produced by the peripheral bundles of rays emanating from the tube. The angle of incidence of these rays, as they strike the skin, is a variable one; therefore the amount of rays to which that particular portion of the skin is exposed, also is variable. The longer the ray, the smaller is its angle of incidence; hence the ray is weaker. To obtain a uniform amount of irradiation, one must be able to vary the focus distance in giving each single dose. For the elimination of the error caused by varying the focus-dosimetric distance, the author has evolved the following tables:

TABLE 2.

Focus-dosimeter distance, 9 cm.

Dose X	10	9	8	7	6	5	4	3	2
Focus-skin distance, cm.	18	19	20,1	21,6	23,3	25,4	28,5	33	40,4

TABLE 3.

Focus-dosimeter distance, 10 cm.

Dose X	10	9	8	7	6	5	4	3	2
Focus-skin distance, cm.	20	20,1	22.4	24	25,8	28,3	31,6	36,6	45

Let us assume that we desire to apply a dose of 3 X to a moderate-sized patch of psoriasis. The tube is placed into a specially constructed ray-proof cabinet, the anodal target is centralized by means of an attachment on the box, the dosimeter is adjusted to read 8 cm., and is placed into position, together with one of the pastilles, wrapped in black paper. The box is then adjusted over the lesion to be exposed, so that the dosimeter is at a distance of 21.3 cm. from the skin (See Table 1). If this distance does not produce a uniformly distributed surface irradiation, then we use distance 33 and adjust the dosimeter to No. 9, Table 2; or distance 36.6, dosimeter No. 10 in Table 3. The lesion is then exposed until the pastille assumes the color of Tint B, which usually requires from four to six minutes' time. The tints may be read off in artificial light as well as in day-light. Aside from the advantages of exactness in dosage which this method permits, is the fact that variations in the current of electricity and in the tubes themselves need not be taken into account, for the irradiation is continued until Tint B is arrived at. Still, the quality of the tubes, whether hard or soft, has

to be taken into consideration, in the application of these doses. This is accomplished by means of the indirect method of measuring the quality of the rays, on this principle: the hardness of the rays is proportional to the resistance in the electrical circuit. Such an apparatus has been devised by H. Bauer, under the name of qualimeter. This instrument depends in its action, upon the fact that, as the hardness of the tube increases, the electric tension at the poles also increases; this tension is measured by means of the electro-static repulsion between two adjacent leaflets, one of which is stationary, the other being hinged. The amount of excursion of the movable surface may be read off a scale, showing the degree of tension in the secondary current. The amount of tension varies with the hardness of the tube, from which information as to the penetrating power of the tube may be adduced. This instrument is said to be quite sensitive to the variations in the hardness of the tubes and, by means of a simple attachment connected with the apparatus, the hardness of the tube may be decreased while it is in action, without disturbing the patient. To obtain the most exact dosages, it appears necessary to employ a certain type of tube described by H. Meyer, in conjunction with the qualimeter.

Berliner Klinische Wochenschrift.

(1912, xlix, No. 3).

Abstracted by Ernest L. McEwen, M.D.

Salvarsan Therapy per Rectum. S. L. Bagrow, p. 108.

The author suggests the administration of salvarsan per rectum because of the unpleasant reactions often observed when the remedy is given intravenously or intramuscularly, and because of the absorptive power of the rectal mucous membrane for soluble substances. His method is as follows: An emulsion is first prepared by triturating 0.1 gm. of salvarsan with a minimum quantity of almond oil; this is then combined with enough cocoa butter to form a suppository, 0.01 gm. of novocaine being added for the anæsthetic effect. After insertion, the bowels should not be moved for fifteen hours if possible. Any rectal irritation disappears in two to three hours; a discharge of mucus from the rectum has not been observed; complete absorption is shown by the fact that salvarsan has not been found in the subsequent stools. General reaction is very slight and a marked improvement of the lesions occurs in three to four days. The dose of 0.1 gm. or 0.2 gm. is repeated with two to three day intervals until a total dosage of 0.6 gm. or 0.8 gm. has been given.

(*Ibidem*, 1912, xlix, No. 4).

Successful Inoculation of Blood, Blood Serum and Sperm of Syphilitics into the Testicles of Rabbits. P. Uhlenhuth and P. Mulzer, p. 152.

The authors are engaged in an experimental study of the question whether it is possible to produce syphilitic disease in rabbits, by inoculation with human syphilitic material in which no spirochætæ are demonstrable by dark-field illumination. Although only at the beginning of their work, they report the interesting results of two series of experiments as follows:

1. In the testicles of three out of four rabbits inoculated by injection (into the testicles) of blood, taken from a woman with secondary syphilis and free from microscopically demonstrable spirochætæ, there developed, after eight weeks' incubation, typical syphilomata—orchitis and periorchitis syphilitica—with demonstrable spirochætæ.

2. In a like manner, working with six rabbits, injecting into the testicles and using spirochætæ-free (apparently) material, positive inoculation results were

obtained in two out of three injected with the blood and blood serum, and in three injected with the sperm of a man with a florid secondary syphilis.

They conclude from these results that the blood, blood serum and sperm of syphilitics in the secondary stage, even if the spirochætæ are not demonstrable, may be infectious, and urge the use of testicular inoculation of rabbits to establish diagnosis in doubtful cases and to demonstrate the presence or absence of spirochætæ in the body fluids.

The work done by others—rather meagre in extent—in the same field, is reviewed and the important bearing of their own results on the question of hereditary syphilis is shown. An outline is given of proposed future work, which should yield data of great value.

Münchener Medizinische Wochenschrift.

(Feb. 6, 1912, lix, No. 6).

Abstracted by Faxton E. Gardner, M.D.

On the Theory of the Action of Salvarsan and Arsenophenylglycin. Iversen, p. 295.

Iversen seems still to believe in "sterilisatio magna." He scouts the idea that salvarsan acts only by the tonic effect of the arsenic and accepts the fundamental idea of specific chemotherapy, namely a specific affinity of the protoplasm of the parasites for trivalent arsenic. This affinity exists in all the atoxyl derivatives; in salvarsan, there is a special affinity for the oxy and amino groups. This explains why salvarsan, with a percentage of arsenic not superior to that of arsenophenylglycin, is so much more active than the latter against the spirilla of recurrent fever and syphilis.

Thrombosis "a distance" After an Intravenous Infusion of Salvarsan. E. Klausner, p. 297.

In a man, 47 years of age, whose chancre dated back 23 years, 0.6 gm. of salvarsan was injected into the left median basilic, for symptoms of meningomyelitis. There was moderate arteriosclerosis. There was no reaction after the first injection. Five months later, a second injection of 0.5 gm. was given into the right median basilic. There was no immediate reaction, nor was anything unusual noted at the site of the injection. Three weeks later, a thrombosis of the right femoral vein developed: finally an abscess was opened from which issued a pint of yellowish, odorless pus. This case is very similar to those published by Klingenstein and Gaucher. A defect of asepsis cannot be blamed on account of the complete lack of local reaction and the long apyretic interval. A direct action of the salvarsan on the endovenous lining is the probable explanation, all the more because the slightly arteriosclerotic patient in all likelihood was also equally "venosclerotic."

On Generalized Professional Argyria. Koelsch, p. 304.

The writer reports two cases of generalized argyria in women handling silver leaf and discusses the ætiology, mechanism and prophylaxis of the condition.

(*Ibidem,* Feb. 13, 1912; lix, No. 7).

Concerning the Abortive Treatment of Syphilis with Salvarsan. Stern, p. 348.

Fourteen cases were kept under clinical and serological control. In eight, no secondaries ever appeared and the Wassermann reaction remained permanently negative after a period of time extending in some cases up to 12, 13 or 14

months. In 5 of the 8 cases, the reaction was positive before the beginning of the treatment, but all were in the second incubation stage, before the roseola. The treatment consisted of two or three injections of 0.4 gm. or 0.6 gm. of salvarsan intravenously, or intramuscularly, or partly intravenously and partly intramuscularly. The authors feel hopeful about the possibility of an abortive treatment with salvarsan.

La Presse Medicale.

(Feb. 10, 1912, xx, No.12).

Abstracted by Faxton E. Gardner, M.D.

Prognosis of the Auricular Disturbances Caused by Hectine. Gaucher and Guggenheim, p. 121.

In individuals having normal auditive organs, accidents have been seen only after high or excessive doses given in too short a time. In those previously afflicted with otitic lesions, even ordinary doses may cause trouble. Hectine must in these cases be discarded; which is only to be mildly regretted as, like all other organic arsenical compounds, it has only a healing value against ulcerative lesions, without any real curative power against the disease itself.

Annales des maladies venerienes.

(June, 1911, vi, No. 6.)

Abstracted by Faxton E. Gardner, M.D.

Intravenous Injections of Organic Arsenical Compounds. E. Joltrain. p. 401.

A description of the present, well-known method of intravenous injection of salvarsan in alkaline solution.

The Basedow Symptom—Complex Developing Durng the Course of Syphilis. A. Levy-Franckel, p. 413.

The report is based upon eighteen observations. This symptom-complex is seen chiefly near the end of the secondary period, more rarely during the tertiary, sometimes in heredo-syphilis. It seems particularly frequent in individuals who have had ulcerative lesions of the pharynx, tonsils, or palate. In no way are these symptoms to be differentiated clinically from an ordinary Grave's disease. In a few cases, these have been the forerunners of tabes. Sometimes they are happily influenced by specific treatment.

On the Toxicity of Mercury Benzoate. A. Desmoulière and H. Flurin, p. 441.

This salt is slightly toxic, but much less so than the bichloride. Solutions prepared with sodium chloride (Gaucher formula) are better than those prepared with ammonium benzoate.

(*Ibidem*, Sept. 1911, vi. No. 9).

Failure of the Abortive Treatment of Syphilis by Local Injections of Hectine in Conjunction with General Mercurial Treatment. H. Moutot, p. 641.

Anti-Syphilitic Treatment Not a Preventive Against the Acquisition of the Disease. E. Joltrain, p. 654.

The relation of a case in which a hard chancre developed while the patient was taking mercurial intramuscular injections for supposedly syphilitic exostoses.

Chancroids of the Fingers and Hands. Druelle and Thibaut, p. 661.

This article consists of a report of fifty-two cases and a general review of the subject.

(*Ibidem*, Oct. 1911, vi, No. 10).

Arsenobenzol in Local Applications. Melun, p. 721.

Melun is convinced that the local application of salvarsan hastens considerably the cicatrization of chancres.

Jaundice Due to Salvarsan. Milian, p. 728.

Salvarsan may cause a slight subicterus or a dark jaundice. Neither the age of the patient or of the disease, nor the mode of injection nor the dose have any appreciable influence. Women seem to be more subject to it than men. Whether of the light or dark type, it is an arsenical, that is, toxic, hæmolytic icterus. It lasts five days to a week. Recovery is the rule: one single fatal case (Hoffman) is on record. Eleven observations, six of them original, are given.

Treatment of Syphilis in the Eighteenth Century by Intravenous Infusions. Payenneville, p. 750.

Ettmüller injected scammony resin dissolved in an infusion of guaicum, under precautions of asepsis as then understood, by means of a cannula and small bulb or silver syringe. The results as depicted, resemble much in their manner of wording those described by the first enthusiasts of salvarsan. All of which tends to prove that there is very little that is new.

(*Ibidem*, Nov. 1911, vi, No. 11).

A Case of Syphilitic Erythematous and Nodular Eruption Resembling Disseminated Gummatous Sporotrichosis. Giuseppe Verrotti, p. 801.

The patient was a man, fifty years old. The eruption began on the middle finger of the left hand and spread to the entire hand and the anterior aspect of the forearm. Syphilis was denied, but the Wassermann reaction was positive and the patient's children were unmistakably syphilitic. This very late syphilitic manifestation yielded to mercurial treatment. Histologically it began as a periphlebitic granuloma: it showed a remarkably abundant vascularization, which explained the bright-red color of the nodule and the slight tendency to ulceration.

Anti-Syphilitic Treatment and the Wassermann Reaction. Gougerot and F. M. Parent, p. 829.

This article is being continued through several numbers and will be reviewed when concluded.

On the Abortive Treatment of Syphilis. H. Hallopeau, p. 848.

Hallopeau answers the criticism of Moutot and maintains that his hectine treatment is abortive in five out of six cases taken early, when carried out faithfully.

On the Abortive Treatment of Syphilis. H. Moutot, p. 850.

Mutot, who has treated ten cases, replies that it may be that Hallopeau's hectine treatment is abortive, but only in a small percentage of cases, and that hasty conclusions as to prophylaxis, marriage and further treatment, are not permissible.

Nervous Symptoms in Syphilitics After Intravenous Infusions of Salvarsan. A. Lévy-Bing, R. Voisin and L. Duroeux, p. 853.

The authors publish four cases of neurorecurrences: facial paralysis; meningitis; meningitis, facial paralysis and lesions of the acoustic nerve; meningitis and facial paralysis. They unhesitatingly state that these accidents are recurrences of syphilitic manifestations and not due to a neurotoxic action of salvarsan: because of the long interval between the last injection and the nervous disturbance; of the absence of any other symptom of arsenical poisoning; of the appearance of the nervous symptoms right in the middle of the secondary period; of the manifest inflammatory nature of the process (as evidenced by the cerebro-spinal lymphocytosis and the lack of atrophic lesions of the nerves); of the development of a facial paralysis is one of their patients before any salvarsan injection; finally, because of the very quick improvement following mercurial treatment, or a new salvarsan injection.

Discussing the mode of production, they draw attention to the fact that these recurrences are really meningo-recurrences, and their frequency is explained by the non-communication of the cerebro-spinal fluid with the rest of the organism. It follows that drugs are very seldom found in the cerebro-spinal fluid and that spirochætæ live there in a comparatively protected state. This condition explains, also, the frequency of syphilitic lesions of the central nervous system.

Two New Cases of Failure of the Hectine-Mercury Abortive Treatment of Syphilis. A. Augagneur, p. 867.

(*Ibidem,* Dec. 1911, vi, No. 12).

A Case of Death Five Days After An Injection of Salvarsan. H. Oltramare, p. 881.

The patient was a man, 48 years old. He was examined carefully and was apparently normal. Four days after an alkaline injection of 0.6 gm. of salvarsan in 300 cc. of salt solution, epileptiform seizure, hyperthermia, coma and pulmonary œdema occurred, followed by death. The autopsy disclosed a chronic leptomeningitis, scars on the ascending aorta, fatty degeneration of the heart, prostatic hypertrophy, pulmonary emphysema, bronchitis and pulmonary œdema. Death was due to acute encephalitis. From the study of this case and others, the author concludes that in old syphilitics having a latent meningitis, salvarsan, like mercury and iodide can give a sudden impetus to the brain lesion.

Fatal Poisoning by Arsenobenzol. Caraven, p. 886.

This case pertains to a man, 22 years old, strong, and recently passed by the board of military examiners. A first injection of 0.6 gm. of salvarsan was followed by no untoward symptoms; a second, a week later, was followed by headache, symptoms of meningitis, progressive coma and death in hyperthermia (104.5° F. at the time of death, 105.1° F. a quarter of an hour after). Autopsy disclosed an absence of meningitis, an intense congestion of the dura-mater, lungs, stomach (ecchymoses) and kidneys.

Intravenous Injections of Neutral Salvarsan Solutions. A. Lévy-Bing and L. Duroeux, p. 915.

The reactions observed after alkaline infusions of salvarsan cannot be blamed exclusively on too much salt or an impure distilled water: according to the authors and Fleig's experiments, they are due to the fact that in an alkaline or acid solution of salvarsan mixed with a solution of biphosphates or bicar-

bonates, the salvarsan is precipated under the form of an insoluble base. This is what happens in the blood, so that an injection of salvarsan modifies the composition of the blood. This gave the authors the idea of injecting a very fine suspension of the base obtained by simply adding enough caustic soda to a solution of arsenobenzol to precipitate all the salvarsan and not enough to redissolve the precipitate. The latter is so fine that, in isotonic solutions, it does not cause the slightest disturbance, there is no reaction and the authors believe this to be the ideal method.

Cervical Osteoperiostitis; Syphilitic Pott's Disease of the Upper Cervical Spine; Cured Hemiphlegia of Right Side. Gaucher, Gougerot and Thibaut, p. 937.

The authors relate a case possessing the features indicated in the title of the communication.

Annales et Bulletin de la Société Royale des sciences médicale et naturelles de Bruxelles.

(1911, lxix, No. 9).

Abstracted by Faxton E. Gardner, M.D.

Importance of Wassermann's Reaction in a General Medical Service. Oscar Weill, p. 213.

Performed on 225 consecutive patients admitted in the wards, without any selection, and according to Wassermann's original technique, the test gave 64 positive results, or 28.44 per cent. This, notwithstanding the fact that there is, in the same hospital, a service for syphilitic patients which takes the early and evident late cases. The writer has been able, in almost all positive cases, to obtain a history which otherwise would have been voluntarily or unwittingly forgotten, and he has elicited in practically all cases a train of slight nervous symptoms which he considers as characteristic. On the latter point, however, control statistics in the same number of patients with a negative Wassermann are still needed. This speaks very eloquently as to the number of syphilitics in the Belgian capital, which, alas, is probably not so far in the lead of other great cities.

(*Ibidem,* 1911, lxix, No. 10).

General Prognosis of Syphilis. A. Bayet, p. 234.

Next to tuberculosis, syphilis ranks highest among the causes of mortality. Thirty-three per cent. of syphilitics die from their disease either directly or indirectly through the long list of affections chargeable to an antecedent syphilis, which serologic study today detects, while formerly we had to rely on anamnesis alone, which was insufficient.

Giornale italiano delle malattie venere e della pelle.

(1912, lii, No. 6).

Abstracted by A. Ravogli, M.D.

Some Critical Considerations on the Salvarsan Treatment of Syphilis. G. Nicolich, p. 688.

Nicolich made the statement, after treating 420 syphilitics with salvarsan, that there was no proof that the disease was cured. He has now treated 1,000

cases, but has not changed his views. In the very beginning of the disease, before the Wassermann reaction has become positive and before there are any symptoms other than the chancre, the affection may be aborted. But the author does not consider this a fair test, as such a patient is not a syphilitic. He enumerates the dangers following the intramuscular administration of the drug: embolic pneumonia, pulmonary emboli, necrosis of the muscles and tendons, thrombosis of the femoral and of the popliteal veins and encapsulated abscesses of long duration. With the intravenous injections more serious complications may develop, such as injuries to the acoustic nerves, etc. One of his patients died as a result of an intravenous injection and he has since used salvarsan only in cases where mercury was not efficacious.

Relation of Adamson's Fringe to the External Layer of Spores in Ringworm. A. Pasini, p. 693.

The rôle of Adamson's fringe in the interior of the hair has not yet been determined, nor the way in which the layer of spores which vegetate externally is constantly reproduced. It seems that this layer is formed by the mycelia which invest the cortical side of the hair from the bulb to the shaft, and then outside is divided in spores. In order to ascertain this point the author removed a piece of skin of the scalp affected with microsporon, cut it in sections, which he stained with Unna's polycrom blue, and pironin of Pappenheim. He could see that the so-called Adamson's fringe is nothing else than the accumulation of the mycelia, which in a wavy appearance are woven into the cortical substance of the hair. The mycelial threads are made up of a cellular membrane with granular contents and are subdivided in branches towards the shaft of the hair. He finds no relation of continuity between the external layer of spores with the intracortical mycelium. The Adamson fringe ends with a very thin mycelium, which goes through the cuticle to the external portion of the hair to be divided in spores. The external layer of spores has a different origin according to the condition of the disease. In the beginning it consists of the division of the giant mycelium which descends into the follicles of the hair. When the disease has remained for some time the giant mycelia disappear from the funnel; the layer of spores hangs from the thin mycelia of the fringe of Adamson, which come out from the cuticle surrounding the hair, and are divided into spores.

On the Study of Nævus. Florio Sprecher, p. 698.

A woman of 20, with congenital deformities of the bones and of the teeth, had a nævus verrucosus in the palm of the left hand, of a dark-brown color and exceptionally large. It is interesting that the presence of nævus is often accompanied with distrophies and malformations. Often the nævus is in correspondence with some hypertrophic condition of the underlying bone.

On Nævi and Tumors of the Sebaceous Glands. Leonardo Martinotti, p. 702.

Sebaceous nævi are very rare, probably on account of scanty observations, as they are often taken for nævi of other kind, or for sebaceous adenoma. He refers to a case in a girl, who had a patch near the left ear, brownish in color, made up of small, round elevations pierced by a hair. Under the microscope the author could find lobular sebaceous masses, with accumulations of epithelial cells. In some places the sebaceous glands were elevated. This confirmed the opinion of the author that the case was one of nævus pigmentosus sebaceous and verrucosus.

The writer gives an exhaustive account of all the different alterations of the sebaceous glands and invokes the metaplasia for the explanation of the occurrence of these nævi. He believes that the sebaceous glands in certain districts of the skin attain a more prominent development, where they are visible as nævus sebaceous simmetricus, or that by aberration of locality either during the fetal stage, or after birth, or at the time of puberty they become visible as a glandular neoformation nævus sebaceous solitarius. He refers to the senile changes in the sebaceous glands, which are the results of the alterations due to age, and they can be changed into pathological neoformations.

The therapeutics consist in surgical removal of the growth with the knife, or with the electro or thermo-cautery. In some cases solid carbon dioxide, electrolysis and in other cases, the application of the X-ray may be useful.

Chronic Annular Dermatitis of the Uncovered Parts. Giuseppe Tuccio, p. 737.

In six years the author observed four patients of different ages, social conditions and habits, with a skin affection, showing the same alterations, course and locality. These are somewhat different from all the known forms constituting an affection by itself. He refers to four cases; the first had the affection around the mouth and nose, and the left temporal region. In the second the ringed eruption was on the backs of the hands and the auriculæ. In the third case the forehead was affected, the eruption gradually extending to the nose and the back of the neck. In the fourth case the affection beginning on the nose, extended to the lower lip and to the cheek. Later, the backs of the hands were affected.

The affection begins as a red, elevated nodule, which grows at the periphery, the centre is depressed, becomes whitish and is covered with scales, while the redness remains at the edges. It assumes a round shape and the red, infiltrated edges are hard to the touch, showing a certain degree of hypertrophy of the stratum corneum. The centre shows the skin to be glossy and of a light-brown color. There is no atrophy. No fungi could be detected. The disease affected the uncovered parts of the body. Its process is essentially chronic and it seems in no way connected with the alterations of metabolism, nor with general diseases. It is accompanied only with mild pruritus.

The author refers the disease to that described by Colcott Fox, as ringed eruption of the fingers, or granuloma annulare.

A Case of Psoriasis Vulgaris in Husband and Wife. Edoardo Imparati, p. 746.

The author refers to the case of a woman, affected with psoriasis, who married a healthy young man and sometime after he too, was affected with a psoriatic eruption of the scalp and elbows. This supports the parasitic origin of psoriasis and, therefore, a certain contagiosity in the transmission of the disease.

New Contributions to the Treatment of Epithelioma of the Skin and Mucous Membranes with the Active Principle of Jequirity. (Abrus Precatorius). Roberto Rampoldi, p. 755.

The author claims that cases of epithelioma treated by himself and by other physicians, by the method, number over 110. The active principle of Jequirity, abrin, has poisonous properties, and it is capable of attacking and of destroying the anatomical elements of the epithelioma. The author refers to 10 cases of his own and many other cases communicated by other practitioners, in which it is claimed that complete recovery was promoted by the application of the remedy.

La clinica sifilopatica.
(Jan. 1912, xxx, No. 1).

Abstracted by A. Ravogli, M.D.

Tuberculosis and Tuberculins. R. Campana, p. 7.

The tuberculous processes in the skin have been the subject of study by the author for many years, and he has experimented with the different tuberculins to determine their influence on cutaneous tuberculosis, clinically on the patients, and experimentally on guinea pigs. He refers to a case of lupus nodularis of the right hand, persistent for several years, with a positive von Pirquet reaction. It was treated locally with Finsen rays and generally with injections of ½ mg. of old tuberculin, which was given three times during the treatment. On each occasion it caused local reaction and a slight attack of fever. Under this treatment the lupus eruption was entirely healed. He prefers a tuberculin that has been freed from the albuminoids as it produces less local and general reaction.

Psoriasis Studied from the Standpoint of Organic Predisposition and Treatment Against the Pathogenic Organism. Carlo Maigiani, p. 19.

The author begins with a statement, *ex adrupto,* that psoriasis is a parasitic disease and affects only individuals predisposed to generalized deviations of the epithelial layers of the skin. He refers to observations on the nails, epidermis, hair, mucous membranes and glands, which he claims have some peculiarities in those predisposed to psoriasis. The illustrations consist of two epithelial cells of the prickle type, one of which he claims contains a parasitary element. Chrysarobin is the best remedy with which to treat psoriasis and its action can be helped by the use of atoxyl.

Some Rare Deviations in Hereditary Syphilis, Especially in the Epidermis. F. de Paolis Fóglietta, p. 35.

Some processes attributable to syphilis, or to tuberculosis, have no definite class and have not yet been established. In some cases the nervous system is affected, together with the epithelial system. The nervous system and epithelial system are formed from the same blastodermic membrane. The epidermis often shows morbid deviations in pemphigoid, or hyperkeratosic types of the disease. He refers to several cases, one of eczema, with a tendency to epidermolysis, which was greatly improved by the use of mercury. The cases of eczema and dermatitis desquamativa in children were accompanied by marked symptoms of hereditary lues. In the histological features, the epidermolytic condition was not accompanied by infiltration, as was found in common eczema. In the cases of squamous epidermolysis of pityriasic form, the epithelial strata were crowded and the cells had lost their prickly appearance and their nuclei had disappeared. The epidermis appeared scaly, with imbricated squames. These abnormalities of the epidermis may be considered as one of the teratological alterations of hereditary syphilis.

Journal of the Indiana State Medical Association.

Abstracted by Faxton E. Gardner, M.D.

Salvarsan in Sixty Cases of Syphilis. Erdman, p. 59.

There was one case of labryinthine neuro-recurrence. One case of presalvarsan interstitial keratitis with vestibular involvement was wonderfully improved two days after the injection.

COMBINED RETURNS OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION

FOR THE YEAR 1910, FROM JANUARY 1, TO DECEMBER 31, INCLUSIVE.

	Boston	Chicago	Cincinnati	Cleveland	Montreal, Canada	New York	Omaha	Phila., Pa.	St. Louis	Toronto, Canada	Wash'gton	Total	Per Cent
Acanthosis Nigricans	1	..	1	..	..	2	..	..	..	..	..	4	0.013
Acne Varioliformis	..	..	..	3	2	15	..	5	..	2	..	27	0.090
Acne Vulgaris	384	184	87	78	48	744	17	220	80	32	133	2,007	6.700
Acrodynia	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	5	..	..	1	..	..	..	..	..	..	..	6	0.020
Adenoma Sebaceum	1	..	1	4	..	2	..	2	..	1	..	11	0.037
Adenoma Sudoriparum	..	..	..	..	..	1	..	..	..	..	..	1	0.003
Ainhum	..	..	..	..	..	..	..	..	..	..	..	..	..
Albinismus (a) generalis	..	..	..	..	..	..	..	..	..	1	..	1	0.003
(b) localis	563	111	20	25	9	34	1	4	38	10	74	889	2.968
Alopecia	100	26	3	6	5	61	1	32	6	8	6	254	0.848
Alopecia Areata	..	..	..	..	..	..	..	..	..	..	..	..	..
Anæsthesia	..	..	..	..	..	..	..	..	..	..	..	..	..
Angio-keratoma	..	..	..	..	..	..	..	..	..	..	..	..	..
Angioma	45	5	1	6	1	13	2	..	1	2	1	77	0.157
Angioma Cavernosum	..	..	..	4	..	..	..	..	..	..	..	4	0.013
Angioma Serpiginosum	..	..	..	..	..	..	..	..	..	..	..	..	..
Anidrosis	4	..	..	4	..	..	..	..	..	..	..	8	0.027
Anthrax	2	..	..	..	..	..	..	..	..	..	..	2	0.007
Asphyxia Localis (Raynaud's disease)	..	..	..	..	..	..	..	..	..	..	..	..	..
Atheroma (Wen)	5	..	..	2	1	2	..	..	..	..	..	10	0.033
Atrophia Maculosa et Striata	18	..	2	1	..	10	..	11	7	2	..	51	0.170
Atrophia Pilorum Propria	..	..	1	1	..	1	..	1	..	..	..	4	0.013
Atrophia Senilis	3	..	..	1	..	..	..	2	..	..	..	6	0.020
Atrophia Unguis	..	..	..	3	..	3	..	..	2	..	..	8	0.027
Atrophoderma Symmetricale	..	..	..	2	3	..	..	..	1	..	..	6	0.020
Blastomycosis	..	7	3	..	1	..	..	..	..	..	..	11	0.037
Bromidrosis	4	1	..	1	..	2	..	1	3	..	1	13	0.043
Callositas	28	1	2	4	3	10	..	7	3	7	..	65	0.217
Cauities	..	2	3	4	..	..	1	..	..	2	1	13	0.043
Carbunculus	33	2	10	1	6	4	..	3	5	1	9	74	0.247
Carcinoma	..	23	2	3	..	8	1	1	3	2	2	45	0.150
Cellulitis (phlegmona diffusa)	..	2	48	..	..	16	..	..	1	1	..	68	0.227
Cheilitis	2	2	..	..	..	1	..	1	2	1	..	9	0.030
Chloasma	16	2	3	4	1	22	1	5	10	4	7	75	0.250
Chromidrosis	..	..	..	..	..	4	..	..	..	..	..	4	0.013
Cicatrix	21	2	2	4	..	13	..	6	..	..	..	48	0.160
Clavus	17	..	..	4	..	5	1	16	4	..	7	54	0.180
Comedo	47	2	5	21	4	22	..	2	15	3	42	163	0.544
Condyloma Acuminatum	12	19	10	..	..	1	1	..	..	..	2	45	0.150
Cornu	..	..	..	1	..	1	..	..	..	..	..	2	0.007
Cystus (Dermoid)	1	..	2	1	10	11	..	..	..	..	..	25	0.083
Dermatalgia	..	..	..	..	..	1	..	..	..	..	1	2	0.007
Dermatitis Actinica (sun-burn and radiodermatitis)	4	2	1	6	..	23	2	..	..	5	..	43	0.144
Dermatitis Calorica	207	2	8	46	3	21	..	6	3	..	4	300	1.002
Dermatitis Exfoliativa	3	6	1	1	1	2	1	..	..	2	..	17	0.057
Dermatitis Factitia	1	2	4	5	1	4	..	3	..	1	..	21	0.070
Dermatitis Gangrænosa	7	..	6	..	1	..	..	..	..	..	..	14	0.047
Dermatitis Herpetiformis	9	6	2	4	2	23	2	5	2	1	3	59	0.197
Dermatitis Medicamentosa	22	6	4	7	8	50	..	11	37	5	2	152	0.507
Dermatitis Papillaris Capillitii	..	1	..	..	1	3	..	1	..	..	1	7	0.023
Dermatitis Repens	3	..	..	2	4	2	1	2	1	..	..	15	0.050
Dermatitis Traumatica	8	17	4	6	1	12	..	23	40	..	..	111	0.371
Dermatitis Venenata	315	47	25	..	3	184	2	194	45	5	14	834	2.784
Ecthyma	..	10	..	..	2	25	..	55	5	15	1	113	0.377
Eczema	1023	353	104	225	184	1899	44	819	238	87	347	5,323	17.770
Eczema Seborrhœicum	72	73	5	40	24	389	15	126	73	2	21	840	2.804
Elephantiasis	1	1	1	..	1	..	..	..	..	..	1	5	0.017
Epithelioma	61	58	14	36	8	82	15	40	26	10	44	394	1.315
Epithelioma Multiplex, Benign Cystic	..	..	..	..	..	..	..	..	..	..	..	..	..
Equinia (glanders)	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	50	27	1	6	4	18	3	12	2	..	5	128	0.427
Erysipeloid	3	..	..	12	..	3	..	2	..	..	..	20	0.067
Erythema Induratum Scrofulosorum	2	..	1	5	..	..	..	1	1	3	..	13	0.043
Erythema Multiforme	36	20	6	8	7	63	1	40	12	4	8	205	0.684
Erythema Nodosum	7	3	1	2	..	5	..	5	1	..	3	27	0.090
Erythema Scarlatiniforme	1	3	..	3	1	3	1	1	2	2	2	19	0.063
Erythema Toxicum	16	19	1	4	7	24	4	1	9	10	..	95	0.317
Erythrasma	2	..	8	..	..	..	..	..	..	..	..	10	0.033
Fibroma	19	1	1	..	..	5	..	2	..	1	..	29	0.097
Folliculitis	19	11	5	4	5	78	1	22	6	..	..	151	0.504
Folliculitis Decalvans	..	..	..	1	..	1	..	..	..	..	..	2	0.007
Frambœsia (yaws)	..	..	..	..	..	..	..	..	..	..	..	..	..
Furunculus	272	31	7	15	12	185	..	103	20	10	28	683	2.280
Granuloma Coccidioides	..	..	..	..	..	..	..	..	..	..	..	..	..
Granuloma Fungoides	6	5	..	3	..	2	..	1	1	..	..	18	0.060
Herpes Simplex	60	24	12	5	7	50	..	43	19	2	9	231	0.770
Herpes Zoster	74	26	3	4	12	70	1	54	16	4	8	272	0.908
Hidradenitis Suppurativa	..	..	2	3	..	..	..	..	..	..	..	5	0.017
Hidroa Vaccinforme	1	4	..	9	..	..	..	..	..	..	..	14	0.047
Hidrocystoma	2	..	..	..	..	..	..	..	..	..	..	2	0.007
Hyperæsthesia	..	..	..	..	..	..	1	..	..	..	..	1	0.003
Hyperidrosis	81	..	2	2	..	48	..	25	6	3	5	172	0.574
Hypertrichosis	149	15	3	5	..	8	4	11	3	5	38	241	0.804
Ichthyosis	17	2	1	3	..	12	1	11	..	10	1	58	0.194
Ichthyosis Congenita	..	1	..	..	1	3	..	..	..	..	..	5	0.017
Icterus	..	..	..	2	..	..	..	..	..	1	..	3	0.010
Impetigo	285	45	26	75	99	438	3	461	47	45	34	1,558	5.201
Impetigo Herpetiformis	..	..	..	..	..	..	..	..	..	1	..	1	0.003
Intertrigo	8	7	2	1	4	29	..	1	1	2	2	57	0.190
Keloid	9	10	1	3	2	15	1	6	4	3	3	57	0.190
Keratodermia	..	7	..	1	..	6	..	..	..	..	..	14	0.047
Keratosis Follicularis	..	..	1	3	..	2	..	..	1	..	..	7	0.023
Keratosis Palmaris et Plantaris	..	3	2	7	1	..	..	..	..	..	..	13	0.043

	Boston	Chicago	Cincinnati	Cleveland	Montreal, Canada	New York	Omaha	Phila., Pa.	St. Louis	Toronto, Canada	Wash'gton	Total	Per Cent
Keratosis Pilaris	18	2	..	1	1	3	..	4	1	..	..	32	0.107
Keratosis Senilis	54	25	1	4	..	5	4	16	7	..	1	117	0.391
Kraurosis	..	..	..	..	..	1	..	..	..	..	..	1	0.003
Lentigo	21	4	..	2	..	3	..	..	1	1	2	34	0.113
Lepothrix	..	..	..	..	..	1	..	..	..	..	..	1	0.003
Lepra	..	1	..	..	..	1	..	..	..	..	..	2	0.007
Leuconychia	..	..	..	..	..	..	..	1	..	..	..	1	0.003
Lichen Planus	26	18	16	6	3	67	5	29	6	1	6	183	0.611
Lichen Ruber													
Lichen Scrufulosorum	..	..	2	2	..	..	..	..	2	..	..	6	0.020
Lipoma	..	1	..	..	2	3	..	1	..	2	..	9	0.030
Lupus Erythematosus	40	23	8	4	5	45	..	12	10	4	5	156	0.521
Lymphangiectasis	..	..	..	1	..	2	..	..	..	..	..	3	0.010
Lymphangioma	3	..	..	..	1	2	..	1	..	..	..	7	0.023
Lymphangioma Circumscriptum	1	..	..	..	..	..	..	..	..	..	..	1	0.003
Lymphangitis	..	..	6	2	..	20	..	..	..	..	..	28	0.093
Melanodermia	..	..	..	1	..	2	..	1	..	..	..	4	0.013
Miliaria (Prickly Heat)	7	26	..	3	5	32	..	28	4	6	3	114	0.381
Milium	13	1	2	6	..	4	1	5	1	4	3	40	0.134
Molluscum Contagiosum	13	1	1	3	2	12	..	41	3	5	..	81	0.270
Monilethrix	..	1	..	..	..	..	..	..	..	..	..	1	0.003
Morbilli	8	..	1	50	5	4	..	.	..	..	4	72	0.240
Morbus Addisonii													
Morphœa	4	2	..	3	..	3	..	..	..	2	..	14	0.047
Mycetoma													
Myoma													
Myxœdema	1	..	..	..	1	..	..	..	..	2	..	4	0.013
Nævus Fibrosus	4	17	4	2	..	..	..	..	8	..	..	35	0.117
Nævus Linearis	2	..	..	1	..	2	..	..	..	2	..	7	0.023
Nævus Lipomatodes													
Nævus Papillaris													
Nævus Pigmentosus	25	12	..	1	4	20	5	11	1	3	3	85	0.284
Nævus Pilosus	14	..	..	2	1	..	1	2	..	..	..	20	0.067
Nævus Vascularis	1	20	2	6	15	60	6	7	14	6	4	141	0.471
Neuroma	..	..	1	1	..	..	..	..	..	..	..	2	0.007
Œdema Circumscriptum Acutum	7	4	2	1	2	3	1	2	2	..	..	24	0.080
Onychauxis	2	1	1	..	..	2	..	2	..	..	..	8	0.027
Onychia	16	3	3	3	1	14	..	4	..	1	2	47	0.157
Pachydermatocele (Dermatolysis)	..	2	..	..	..	..	..	..	..	..	..	2	0.007
Papilloma	2	8	..	8	..	2	..	2	1	3	..	26	0.087
Paronychia	64	1	5	2	..	28	..	4	3	..	..	107	0.357
Pediculosis Capillitii	158	12	7	23	23	194	..	123	17	15	1	573	1.913
Pediculosis Corporis	14	21	11	8	8	56	..	49	3	10	3	183	0.611
Pediculosis Pubis	22	7	2	4	1	12	..	10	3	5	5	71	0.237
Pellagra	1	..	..	1	..	..	..	1	..	..	..	3	0.010
Pemphigus	1	1	2	2	..	1.	1	1	..	..	..	9	0.030
Pemphigus Vegetans													
Pernio	20	3	8	4	2	18	..	4	1	..	3	63	0.210
Piedra													
Pityriasis Rosea	50	12	3	12	8	40	..	34	5	..	14	178	0.594
Pityriasis Rubra	..	..	..	..	1	1	..	..	..	..	..	2	0.007
Pityriasis Rubra Pilaris	..	4	1	..	..	..	..	..	1	..	..	6	0.020
Pityriasis Simplex	3	..	..	6	..	1	..	..	..	..	..	10	0.033
Porokeratosis													
Pompholix	5	29	1	4	..	34	..	5	13	1	..	92	0.307
Prurigo	1	..	10	8	..	21	..	..	1	..	2	43	0.144
Pruritus	52	81	18	11	18	60	9	22	36	7	13	327	1.092
Psoriasis	187	118	28	25	37	322	4	73	23	45	34	896	2.991
Purpura	15	1	2	11	2	16	..	5	1	2	3	58	0.194
Rhinoscleroma	..	..	..	..	..	..	..	..	..	..	5	5	0.017
Rosacea	83	54	21	15	13	159	15	57	17	5	5	444	1.482
Rubella (Rötheln)	..	2	..	6	..	12	..	10	..	..	2	32	0.107
Sarcoma	..	1	..	2	..	6	1	..	2	1	2	15	0.050
Scabies	452	74	49	67	89	623	2	368	39	114	114	1,991	6.647
Scarlatina	4	..	..	40	..	3	..	..	..	..	1	48	0.160
Sclerema Neonatorum	..	1	..	..	..	..	..	..	..	..	..	1	0.003
Scleroderma	3	3	..	..	..	4	..	3	..	4	..	17	0.057
Scrofuloderma	19	2	..	1	..	8	..	2	3	2	..	37	0.123
Seborrhœa	213	44	28	47	7	86	7	58	26	15	42	573	1.913
Staphylococcia	69	8	..	18	..	2	4	6	19	4	3	133	0.444
Sudamen													
Sycosis Lupoides	..	..	1	2	..	..	..	..	..	..	..	3	0.010
Sycosis Vulgaris	43	17	11	11	11	67	3	30	5	10	6	214	0.714
Syphiloderma	450	560	177	9	43	560	25	175	125	31	174	2,329	7.775
Syringo-myelia	..	..	3	..	..	..	..	..	..	..	..	3	0.010
Telangiectasis	2	7	..	2	..	2	1	5	2	2	7	30	0.100
Tinea Favosa	31	6	..	3	3	15	..	2	1	2	..	63	0.210
Tinea Tricophytina	83	4	..	..	..	..	..	..	..	..	..	87	0.290
a. Circinata (corporis)	15	20	35	10	12	78	1	73	14	10	6	274	0.915
b. Tonsurans (capitis)	46	17	4	14	11	167	..	82	13	56	4	414	1.382
c. Sycosis (barbæ)	10	3	2	11	3	45	1	18	1	2	5	101	0.337
Tinea Versicolor	40	16	6	6	6	84	1	14	7	7	4	191	0.638
Trichorrexis	..	..	..	1	..	..	..	..	..	..	..	1	0.003
Tuberculosis	..	2	..	2	..	2	..	2	..	..	..	8	0.027
Lupus Vulgaris	13	9	10	4	2	19	..	3	1	2	3	66	0.220
Tuberculosis Verrucosa	6	2	1	..	..	9	..	6	..	..	1	25	0.083
Ulcus	103	12	20	6	..	263	..	12	29	..	11	456	1.522
Ulcus Molle	54	80	28	21	..	7	..	1	1	..	13	205	0.684
Oridrosis													
Urticaria	201	23	21	7	63	514	1	66	16	11	19	942	3.145
Urticaria Pigmentosa	..	..	..	..	..	..	..	1	..	..	..	1	0.003
Vaccinia	1	..	3	..	..	1	..	2	3	..	..	10	0.033
Varicella	6	2	2	8	6	68	..	36	10	..	9	147	0.491
Variola	..	24	..	..	..	..	..	..	1	2	7	34	0.113
Verruca	150	36	9	20	12	117	2	65	30	6	11	458	1.529
Verruga Peruviana													
Vitiligo	9	12	2	4	4	13	1	13	7	2	5	72	0.240
Xanthoma	10	3	..	2	1	5	..	3	..	1	6	31	0.103
Xeroderma Pigmentosum	1	..	1	3	..	2	..	..	..	..	2	9	0.030
Xerosis	6	4	..	4	3	..	..	..	..	..	1	18	0.060
Unclassified	..	23	2	..	..	26	..	27	9	..	..	87	0.290
												29,955	

S. POLLITZER
Chairman Committee on Statistics

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THE INFLUENCE OF MILK FAT ON THE SKIN.

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THERE are many reasons for believing that milk may often be detrimental to the skin. Jonathan Hutchinson has remarked how frequent eczema is at both extremes of life, in infancy and in old age, when milk so often constitutes the chief or sole diet. Combe, of Lausanne, has recently, in his work in intestinal autointoxications, mentioned the frequent occurrence of eczema in infants and their recovery on giving buttermilk, and he ascribes the improvement to the withdrawal of the milk fat.[1] In conversation, recently, Dr. W. A. Hardaway, referring to the evils attributed to oat-meal porridge, said few thought of the sugar and cream that were taken with it. Years ago Dr. Martinache, a man of originality and a good clinical observer, repeatedly drew the attention of one of us to the occurrence of acne pustules due to butter. As those were the days when bacteriology was young, he preached to deaf ears, but long afterward, with further clinical experience, we found ourselves listening attentively and appreciatively to Professor Max Joseph teaching that acne is frequently aggravated or caused by the use of butter. It is an old observation among the laity that butter will give rise to "pimples," but they do not consider cream or rich milk in the same light as butter and for that matter they do not look upon ice cream as cream, even when made with real cream. On the other hand, we, from clinical experience, have come to regard cream and rich milk as worse seborrœogens than butter. Riehl says that if geese and

[1] Combe, A. *L'Autointoxication intestinale*, p. 237. Ballot (quoted by A. Jacobi, The Gospel of Top Milk, *Jour. Am. Med. Assn.*, Oct. 10, 1908, p. 1216) gives the percentage of fat in buttermilk as 1.25. The percentage of fat in cow's milk is 3.90 and over.

ducks are starved and then fed on oil of sesame, the oil will appear in their cutaneous glandular secretions and he concludes from this and from the finding of iodine and bromine in the sebaceous glands of those having iodide or bromide acne, that substances ingested may often influence the sebaceous glands.[1] It has also been remarked that oil of sesame will taint the exudations of the skin.[2]

Our own experience is that the ingestion of a large amount of butter, or other forms of milk fat, increases very much the refractoriness to treatment of seborrhœa and the seborrhœids. At first we thought that milk being the most easily digestible of meats was therefore easily attacked by microörganisms and so gave rise to ptomaines and leucomaines, which in turn caused eruptions of the skin. Further reflection showed this view to be erroneous, for while milk is exceedingly easy to digest, it is, as Combe has pointed out, antiputrefactive in the alimentary canal. The lactic acid bacilli quickly grow in milk and split the lactose into lactic and succinic acids, which inhibit the proteolytic bacteria that cause putrefaction and give rise to poisonous ptomaines and leucomaines.[3] It is also true that lactic and succinic acids are speedily absorbed, and that when this occurs the casein decomposes as quickly as other proteids. This decomposition, however, would necessarily take place in the lower bowel, and unless accompanied by constipation would hardly give rise to enough noxious material to affect the skin. Furthermore, the eruptions on the skin due to ptomaines and leucomaines differ in type from those attributed to milk.

It is also probable that because milk is so easily digestible and assimilates so readily with the tissues, that the tissues themselves finding their food come so easy, have not that robust quality that renders them capable of fighting infection. An experiment by Hankin, cited by Adami, is enlightening in this matter. Rats as a species, even young rats, are refractory to anthrax. Hankin took a brood of newly born rats and fed half of them on the ordinary mixed food of these animals, with relatively large amounts of meat. The other half were fed on bread and milk. The former half he found com-

[1] Riehl. *Lehrbuch der Haut und Geschlechtskrankheiten,* 1909, p. 27.

[2] In Justin McCarthy's edition of *Burton's Thousand Nights and a Night,* there is an interesting note of the effect of oil of sesame on the skin. "The Persians apply the term 'taint of sesame oil' especially to the Jews, who very wisely prefer, in Persia and elsewhere, oil which is wholesome, to butter, which is not. The Moslems, however, declare that its immoderate use in cooking taints the exudations of the skin."

[3] Combe, *A. Loc. Cit.,* p. 384.

paratively insusceptible, while all the bread-and-milk fed rats died of the inoculated disease. Adami relates this experiment to show the influence of diet upon the bacteriacidal properties of the tissues[1] and it may well be that milk as a whole has much to do with rendering the skin less bacteriacidal, but we are of the belief that the fat is the especially dangerous ingredient.

Cow's milk is a complete food, containing proteids, fats and carbohydrates, yet compared to human milk it is too poor in carbohydrates and too rich in fat.[2] This richness in fat, together with Combe's observation of cures of infantile eczema achieved by giving buttermilk, led us again to think of milk fat as one of the causes of seborrhœa and, incidentally, of the seborrhœids.

The digestion of fats is a much simpler process than the digestion of either carbohydrates or proteids. They enter the circulation comparatively unchanged and are either stored almost unchanged, or burnt to produce heat. Butter is particularly easy to digest and if it remains too long in the stomach, butyric acid may be split off from the glyceryl-butyrate and cause indigestion. Although butyric acid is very irritating there is, however, no reason to suppose that its formation in the stomach gives rise to any disease of the skin. If much butyric acid is produced in the intestinal canal it might give rise to urticaria and we think we have seen it do so, but urticaria partakes more of the type of eruption produced by the ptomaines or leucomaines and differs from seborrhœa, seborrhœic eczema and the other seborrhœids. Butter is composed of the oleate, the margarate and a very little of the butyrate and the stearate of glyceryl. These are emulsified by the bile and pancreatic secretion and then split by lipase into their corresponding fatty acids and glycerine in order to be readily absorbed. Lipase, however, has a reverse action also and the fatty acids and glycerine, after passing through the intestinal mucosa, are synthesized by it into fats that appear as fat droplets in the intestinal villi and chyle[3] Lipase is one of the most widely distributed ferments and this process of splitting the fats and recombining them appears to be going on all the time, as fat is required by the economy for heat, for lubrication, or for storage. But no matter what the digestive changes may be that absorbed fat undergoes, the matter of prime importance to us

[1] Adami. *Pathology,* i, p. 367.

[2] Martinet, Alfred. *Les aliments usuels,* p. 157.

[3] Fischer, Martin H. *Physiology of Alimentation,* p. 293.

in our views of the action of a given fat on the skin, lies in the fact so often brought out by physiologists that the fat laid down in the tissues is almost identical with the fat ingested.

The persistence of the identical fat is one of the most interesting subjects in physiological chemistry and is best illustrated by the following example: Some years ago a large packing firm sold to the United States Government a consignment of lard which was found to be adulterated with cotton-seed oil. The packer affirmed it was not so adulterated, but his testimony was regarded as *ex parte* and the entire shipment was destroyed. Some time after this, another American packing concern sent a large shipment of lard to France. It was examined by expert chemists and it also, was found to be adulterated with cotton-seed oil. During the subsequent controversy, the American firm tested the lard of hogs fed on cotton seed and it was found to give the reactions for cotton-seed oil. The oleom gossypii had been transferred from the seed to the hogs' tissues as oleum gossypii and was not stored as lard.[1] Furthermore, it is known that if a dog is starved and fed on tallow, which is rich in stearin, his fat, when tested, will correspond to tallow.[2] It has further been found that when geese are fed on oleic acid, oleic acid appears in large quantity in the uropygial gland.[3] This last experiment brings the subject to the point where it interests the dermatologists, as the uropygial gland is a fat or sebaceous gland.

If butter, cream or rich milk is ingested it is only fair to infer that it will act exactly like these other foods and that the patient, if he takes an excess of milk fat will have an excess of milk fat in his skin and clinical experience decidedly bears out this inference.

The skin is one of the greatest fat-using organs of the body. In the formation of its horny external covering, of the hairs and of the nails, it uses large quantities of horn fat, that in the natural desquamation of the skin, the defluvium and the breaking off of the hair and in the outgrowth of the nails, is being continually thrown off or excreted.[4] In this way the entire free surface of the skin may

[1] Lengfeld, Felix. Personal Communication.

[2] Rosenfeld. *Verhandlungen des* xvii *Congress für innere Medizin*, 1899, p. 503, quoted by Martin H. Fischer, *Physics of Alimentation*, p. 294.

[3] Pembrey, M. S. The Functions of the Skin, *Brit. Jour Dermat.*, Sept., 1910

[4] The old physicians appreciated this and one of the original meanings of the word "excrement" was anything that grew out of the body, such as the hair and the nails. Shakespeare frequently so used the term and once, to modern ears, with astonishing effect. *Love's Labour's Lost*, Act. v, sc. i, p. 89.

be looked upon as an immense fat-excreting gland, with the sebaceous glands as pockets, out of which wells up a more fluid fat. When therefore, there is delivered to the skin a more than ordinarily delicate fat that breaks down under the attacks of microörganisms with unusual facility, it is no wonder that the resistance of the skin is lowered and that certain bacteria that usually rest on the skin, as harmless parasites, such as acne bacilli, streptococci and staphylococci, become aggressively vicious.

Fat, as a rule, does not easily fall a prey to bacteria and as a matter of fact the normal sebaceous secretions of the skin form one of its most efficient safeguards against bacterial attack. Butter, however, differs from almost all other fats in being easily split by microörganisms. Although even it, when in a roll and "well worked" and so freed from casein and water, becomes rancid very slowly[1]. But butter in the skin differs decidedly from butter in the roll. As it lies in the scurf layer, or in the sebaceous glands, it is almost as finely divided by the detritus of the epithelial cells as it would be in an emulsion. In addition to this, it is kept warm by the body temperature and is particularly well supplied with tepid water, as hyperidrosis is a frequent symptom of fat or seborrhœic people.

Seborrhœa is a condition of the skin in which the natural desquamation of the epithelial cells becomes unusually active, and in which the surface of the skin becomes either abnormally dry or abnormally oily. Besides this, the color of the skin, the complexion, grows more yellow, due to the increased fattiness of the epithelial cells. This yellow tint modifies the color of all the inflammations that may occur on the cutaneous surface and is, for example, one of the distinguishing characteristics of seborrhœic eczema. If an abnormal amount of nutritional fat is delivered to any skin, or if an abnormally small amount of fat is burnt through lack of oxygen as in anæmia, or a too sedentary life, it is only reasonable to suppose that the skin may acquire this type and we believe it does so.

The fat of the body may arise from the ingested fat, or it may be the product of the metabolism of sugar or of starch, or to a slight extent, at least, it may issue from the metabolism of the proteids.[2] In each case of seborrhœa, if we could weigh all the

[1] Lewkowitsch, J. *Chemical Technology and Analysis of Fats, Oils and Waxes.*

[2] Abderhalden, quoted by Langley Porter, in "Some Points to be Considered in Feeding Infants," *Cal. State Jour. Med.*, states that while both fat and carbohydrates can be produced in the body from albumin, it is improbable that such change occurs under ordinary feeding conditions.

circumstances, we probably would find that the type differed according to the origin of the excess of fat. Some of our worst cases of seborrhœic degeneration with keratotic patches and carcinomatosis, were in heavy milk and cream drinkers. This is probably due to the fact that when milk fat is taken in milk or in cream it is an emulsion and is, therefore, more readily absorbed than when ingested as butter. Being more readily absorbed, it reaches the skin in overwhelming quantity shortly after a meal, causing a kind of fat congestion. A familiar antithesis to the readily absorbable milk fat is pork fat, which besides being quite solid, is held in firm connective tissue capsules that have to be digested off before the fat can escape. Pork fat is, therefore, slowly delivered to the blood in small manageable quantities as it travels down the alimentary canal. It is, therefore, admirably adapted for a "long stint of hard work," as the workman puts it, "it stays by him." As pork fat is slowly absorbed it has time to be burnt and is not liable to occasion fat congestion in the skin or in the liver, or to be shunted into the fat storehouses, as into the subcutaneous adipose tissue. The same holds good as between the starches and sugars. Starch is slowly transformed into sugar and is absorbed as it travels down the gastro-intestinal tract and does not tend, like the disaccharids, cane sugar, malt sugar and milk sugar, to cause sugar congestion.[1] The easily absorbable carbohydrates and fats go to make up the bulk of pulpy, soft people, who have the yellow, soft fat that one can poke the thumb through so easily on the post-mortem table.

It is interesting to observe that Combe, in his study of autointoxication, excluded from consideration the ternary bodies, consisting of the fats, the sugars and the starches, because, as he said, they are anti-putrefactive and, furthermore, because they have not yet received sufficient study. The problems presented in the study of the detrimental effects of the ternary bodies and those of the effects of the putrefaction of the quaternary or nitrogenous bodies, are quite different. In the latter, ptomaines and leucomaines are formed that cause fierce dramatic poisonings, that attract attention by their sudden deadliness, whereas the ternary bodies tend to be stored as the sluggish adipose tissue of soft, flabby people, who invite microbic attack through their low resistance. It is our belief that not only does the easily digestible food, butter, appear on the skin as a fat that easily becomes rancid, but that it also forms a cutaneous horn substance that is of a lower, less compact grade than

[1] Fischer, Martin H. *Physiology of Alimentation*, p. 285.

normal horn, and that the epithelial cells derived from it develop and grow quickly and are as quickly cast off, giving rise to the increased desquamation observed in seborrhœa. Many seborrhœic people even emit a strong odor of rancid butter.

There can be no doubt that the skin in carrying out its functions uses vast quantities of fat and there is no doubt in our mind that the kind and quantity of fat delivered to it is of very great importance to its health. It is also our opinion that the quantity and quality of fat ingested does not act directly as a poison, but that it lowers the resistance and increases the susceptibility to bacterial attack, rendering the patient liable to acne, seborrhœic eczema, furuncle, carbuncle and erysipelas.

A COMPARISON OF PEMPHIGUS FOLIACEUS AND DERMATITIS EXFOLIATIVA NEONATORUM (RITTER), WITH REMARKS ON THE ÆTIOLOGY.*

By H. H. Hazen, M.D., Washington. D. C.

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IN the March, 1910, issue of The Journal I reported a case of pemphigus foliaceus, together with some experimental work that tended to show that the case was due to an infection with the Bacillus pyocyaneus. R. Cranstom Low has criticised my work and most authors have failed to accept it, feeling no doubt that one case was not sufficient from which to draw deductions. It is my purpose to supplement my first paper with facts drawn from the study of a second case. Curiously enough, shortly after the death of this case, there came under my observation an example of dermatitis exfoliativa neonatorum which was objectively the same. It is therefore of interest to compare the two cases, in addition to recording the further progress of the one that I reported some months ago.

Pemphigus Foliaceus.

Case 1. This case was fully published in 1910. At the time it should have been observed that there was a foul privy in the backyard. In reply to Dr. Low, I feel that his criticisms of the positive findings of the Bacillus pyocyaneus in the blood are justified: it is extremely difficult to get a sterile specimen of blood where the skin is so seriously involved. His criticism of the bacillary findings in the urine is not so well founded, for the urine was twice drawn by catheter,

* From the Dermatological Departments of Johns Hopkins Hospital and Freedmen's Hospital.

and each time the Bacillus pyocyaneus was found in large numbers. Since the last report the patient has continued in about the same condition. He has spent most of his time in a tub. Alum baths have been tried and salvarsan has been twice administered, once intravenously and once intramuscularly, but with no effect.

Case 2. This is, I believe, the first case of pemphigus foliaceus ever reported in a negro. The patient was a full-blooded negress, aged fifty-one, who had been employed as a domestic. She had been married thirty-one years and had given birth to two children, one of whom had died at eight years of age, and the other of whom is still healthy. There have been no miscarriages. Her husband suffers from "rheumatism." She was born in Virginia, but has lived in Washington for twenty-one years. Again, there is the history of a foul privy in the yard.

As a child she had measles and whooping cough and at thirty had mumps, but had otherwise always been well; she ceased menstruating at forty-nine.

The present illness began late in August, 1911, with some small "water blisters" on the lower part of the back, just above an "Ordway plaster" that she had put on for "kidney trouble." This eruption spread rapidly over the back and shoulders, then to the face and scalp and to the chest, abdomen and limbs. About three weeks before admission, she was very much better, the face and scalp had entirely cleared under some salve. At first there was some itching, but this soon stopped and formication took its place. She had felt generally well and had been able to do her housework. None of her associates were or had been similarly affected.

She was admitted to Freedmen's Hospital on Nov. 3, 1911, when the following note was made by Dr. Ecker: "Examination shows a well-nourished woman, who does not look her age. Her heart is not enlarged, the sounds are clear and are of normal relative intensity. The lungs are clear to precussion, but on auscultation there are a few general fine crackles that clear up on the taking of a deep breath. The liver, spleen, and superficial lymph glands are not enlarged." I made the following note upon her skin condition: "Practically the whole cutaneous surface of the patient, with the exception of the limbs below the knees and elbows, is covered with two varieties of eruption. On the limbs there are numerous, primary flaccid blebs, ranging in size from 3 mm. to 2 cm. These contain a small amount of opaque serum. The face, the scalp, the neck and ears, and the entire trunk are covered with scabs and scales, which vary in size from 5 mm. to 5 cm., and are a dirty gray or brown in color. When removed they leave a raw, weeping surface. In the axillæ, groins and over the buttocks the skin is raw, as from a burn, and is covered with creamy pus. There is no bleeding. The mouth and vagina are not involved. There is a moderate degree of conjunctivitis of both eyes. Just about the insertion of the deltoid muscles, and also about the middle of the gluteal regions the exfoliation stops abruptly, but the horny layer is undermined for nearly 10 cc. further, and is peeling off in great shreds. There is a sickening odor present that may be compared to the odor of a recently dead mouse. Exactly this odor was present in the other case of pemphigus foliaceus that I have seen."

The total urine was only 215 cc., although water was forced upon the patient; there was a slight amount of albumin, no sugar, a few squamous and pus cells, and a few hyaline casts. The total urea was 4.79 g. A blood culture showed the presence of the Staphylococcus albus, a finding which we considered a contamination. The Wassermann reaction was negative. Cultures from the skin at large and from the outside of the vesicles gave the Staphylococcus albus; cultures from old vesicles and from ruptured vesicles, gave the same findings: on the other hand cultures from fresh, unruptured vesicles invariably gave the Bacillus pyocyaneus in pure culture. The white blood count was 7,900 of which the polymorphonuclears constituted 68.6%, the eosinophiles 1.2%, large mono-

nuclears 0.8%., small mononuclears 25.6%, transitionals 2.6%, and mast cells 1.2%. There was no definite agglutination with Bacillus pyocyaneus; motility was stopped at 1 to 50 but there was no clumping.

Drs. Gilchrist and Strobel, of Johns Hopkins Hospital, were good enough to confirm my diagnosis of pemphigus foliaceus. The patient was kept in the bath as much as possible and was given various salves and lotions.

On November 14th, it was noted that while the back and chest were much better new lesions were appearing on the limbs, and that the undermining of the epidermis was extending down the limbs, very much after the fashion of a dermatitis repens. This spreading was clearly by contiguity, just as one sees an infection spread. The face and chest showed leukodermatous areas as a result of the peeling. The conjunctivitis was much worse and the conjunctivæ were much thickened. There was a discharge from the right ear. The patient was much weaker and had plainly lost considerable flesh. The temperature had varied from normal to 101°F. and the pulse had run accordingly.

On the following day she was very ill and was delirious at times; her temperature was around 101°F. and her respirations were rapid and shallow.

On the 16th, a large unaffected area on the left leg was selected, and four abrasions were made with a sterile scalpel, just deep enough to draw serum; into two of these a pure subculture of Bacillus pyocyaneus was rubbed and the other two left as controls, and all were sealed with sterile gauze. Within three days the two places, into which the organisms had been rubbed, developed typical flaccid vesicles, while the two other had entirely healed. The pyocyaneus was grown from new lesions.

On the 19th, she developed paradoxical incontinence, and a catheterized specimen of urine gave a pure culture of the Bacillus pyocyaneus. She died on the following day.

Autopsy Report.

On the 20th, Dr. Van Swearigen performed an autopsy with the following results:

The patient was an emaciated negro woman, 146 cm. in length and weighing 120 pounds. The skin was peeling in leaf-like scales. The sheet in which she was wrapped was very green in spots and the buttocks were also stained green. Blebs were found on the hard and soft palate and in the vagina. The heart's blood was fluid, the heart itself was normal: there were a few atheromata in the aorta. There was no fluid in the pleural cavities: the whole of the right lung was bound down by old adhesions. Both lungs contained air and there was no consolidation. Both lungs contained a number of circumscribed nodules about 2 mm. in diameter that grated under the knife.

There was no free fluid in the peritoneal cavity, and there were no adhesions. The spleen was not enlarged and was hard, firm and dark in color. The kidneys showed some parenchymatous degeneration. The liver showed chronic passive congestion, and was very fatty.

The œsophagus was normal, the stomach had some markedly congested areas and the intestinal tract was normal. The uterus contained a fibroid tumor, about 8 cm. in diameter, and was adherent to the intestines. The bladder and urethra were normal.

Cultural Experiments.

Cultures were taken from the heart's blood, liver, spleen and kidneys, by first searing the surface with a hot iron, then making a puncture with a hot, pointed instrument, and then by inserting a sterile platinum loop into the puncture hole. All of these cultures gave a pure growth of the Bacillus pyocyaneus. Urine from the pelvis of the kidney, when dropped into broth, gave the

same result. The bacillus was tested out by Dr. Lyons and gave all of the cultural and morphological characteristics of the Bacillus pyocyaneus.

Rats and guinea pigs suffered no inconvenience from large injections of the organism either intraperitoneally or subcutaneously: mice speedily died from either type of injection. The strain was evidently not so virulent as is usual for the organism to be.

Histological Examination.

A fresh blister, together with a large area of adjacent skin, was excised without any anæsthesia, while the patient was in coma. It was found that the superficial layer of skin would peel off as soon as handled (Nikolski's sign). Paraffin sections were cut and stained with hæmatoxlyin and eosin, polychrome methylene blue, and acid and neutral orcein. Three distinct phases of the pathology must be described; first, the skin at a little distance from the vesicle; second, the edge of the bleb and third, the central portion of the vesicle.

1. There is a separation taking place just beneath the stratum lucidum. The rete is thickened and there is some infiltration, with fixed tissue cells, having elongated nuclei, in addition to a slight amount of œdema. The blood and lymph vessels and the lymph spaces in the corium are slightly dilated, and the blood vessels are surrounded by small round and fixed tissue cells, and a few polymorphonuclears. There is some œdema of the papillæ and corium.

2. Near the edge the vesicle forms just beneath the granular layer. The rete is slightly thickened, is œdematous and is markedly infiltrated with small round cells, fixed tissue cells and polymorphonuclears, many of which have fragmented nuclei. There are no eosinophiles or plasma cells. The papillæ are elongated and œdematous and are infiltrated just as the rete is. The vessels in them are markedly dilated. The lymph and blood vessels and the lymph spaces of the corium are dilated, and there is a marked infiltration around the blood vessels, with very many polymorphonuclears. The whole corium is œdematous and is markedly infiltrated, there being present many polymorphonuclears, some of which have fragmented nuclei. The sweat apparatus is not especially involved.

3. In the vesicle proper the separation takes place deep in the rete. The corium is œdematous and there is some infiltration, largely of polymorphonuclears, around the blood vessels, which are dilated, as well as are the lymph spaces. There is remarkably little general infiltration. None of the sections shows any change in the elastic tissue.

The salient points of this case are its short duration, the finding of the Bacillus pyocyaneus in pure culture in the fresh vesicles, although the exterior yielded the staphylococcus, the reproduction of typical vesicles with a pure subculture of Bacillus pyocyaneus, the finding of a sterile blood culture at first, with the development of a pyocyaneus septicæmia as evidenced by the autopsy, and the spreading of the lesions by contiguity just as an infection does. At first there was undoubtedly a local infection with the pyocyaneus that caused the pemphigus, and then the development of the septicæmia which caused the death.

Dermatitis Exfoliativa Neonatorum.

Case 3. In January, 1912, the following case was brought to Dr. Gilchrist's clinic at Johns Hopkins. The patient was a white male, fourteen days old, and the son of intelligent American parents. He had been born in term, and delivered by forceps at the end of a fifteen hours' labor that was not especially difficult. There was another child, aged two years, who had always been healthy. There was no family history of any skin disease and no history of contagion. The

mother was doing well and was nursing the baby. The room in which the infant was kept was separated from a foul privy by a thin wooden wall. The child was healthy at birth, but at the end of three days was noticed to be somewhat fretful.

Four days before admission, after a rather restless night, the infant suddenly became very red, the erythema lasting for about four hours. The next day "water blisters" broke out around the mouth, and within twenty-four hours the entire body was covered by vesicles. The child had continued to nurse well and had not lost in weight or strength.

Examination showed a well-nourished child that looked extremely ill. It was breathing with difficulty and most of the respirations were convulsive. The mouth could not be opened widely because of the yellow crusts that surrounded it and which also covered the chin and part of the cheeks. The lips were not involved. There was a conjunctivitis and the eyes were kept closed. The whole of the body, with the exception of the palmar and plantar surfaces, was thickly studded with blebs that varied in size from 2 to 10 mm. They had extremely thin walls and contained a clear serum. Over most of the body they arose from the normal, uninflamed skin, but over the chest and upper arms they arose from an inflamed base. In the axillæ and groins the outer layer of the skin was peeling just as in a burn, or as in the second case of pemphigus foliaceus.

Cultures taken from the vesicles yielded a pure growth of the Staphylococcus albus, which did not prove pathogenic to rats. The white blood count gave 45,000 leucocytes, of which the polymorphonuclears constituted 43%, eosinophiles 3%, large mononuclears 1%, small mononuclears 50.4%, transitionals 2%, and mast cells 0.4%. There were 0.2% of neutrophilic myelocytes, and a count of 500 cells showed 2 nucleated red cells. On account of the bad condition of the child and because an autopsy seemed assured, it was decided not to do a biopsy. The infant was admitted to the Johns Hopkins Hospital. There was practically no treatment with the exception of maintaining the bodily heat and feeding. A blood culture yielded the colon bacillus, which was considered a contamination. Three days after admission there was not a vesicle on the body, but only profuse scabs and scales and the child was very much better.

Six days after admission there were 20,000 leucocytes, and a differential count gave the following results: polymorphonuclears, 35%, eosinophiles, 1%, large mononuclears, 1%; small mononuclears, 60%; transitionals, 2% and 10 nucleated reds to 500 whites. Two weeks after admission the child was well.

The most interesting features in this typical case of dermatitis exfoliativa neonatorum (Ritter), are the objective similarity to pemphigus foliaceus, the extremely high leucocyte count and the finding of the Staphylococcus albus in the fresh vesicles. It is now pretty generally agreed that the disease is due to an infection with the Staphylococcus albus, and Hedinger has pointed out how it may grade into pemphigus neonatorum. The name of the disease is a very bad one, for the exfoliation is usually secondary, the primary condition, of course, being a generalized staphylococcus cutaneous infection.

It is interesting to note that in the three cases just reported there was a privy in the yard. However, two of the three cases were from Baltimore where there is as yet no sewerage system, so no deductions should be drawn.

Only two theories as to the ætiology of pemphigus foliaceus need be discussed; first, that it is due to an intoxication and, second, that it is due to an infection.

Johnston has championed autointoxication as being the cause of bullous eruptions, and Low has accepted this theory as applied to pemphigus foliaceus. So far as I am aware there is no demonstration that the lesions of pemphigus are due to a toxin: as Hartzell says, the theory rests upon analogy alone, upon the facts that drug and serum eruptions are frequently bullous. Johnston lays stress upon the indicanuria, and Leredde upon the eosinophilia, as evidences of intoxication. In reality it has never been absolutely proven that drug eruptions are due to the drug alone; there is a possible chance that they must simply lower the resistance, and pave the way for an infection that causes the vesicles. According to Cabot, Emerson, and Taylor, no stress can be laid upon the presence of indican in the urine; it is simply the sign of putrefaction of proteid and may be due to any one of a dozen different causes. Eosinophilia is not always present and, besides, may be due to a purely cutaneous disease, as scabies. Taylor, in an admirable article, calls attention to the fact that very few of the products of either normal or abnormal digestion are toxic, and he speaks of autointoxication as a limbo into which the untrained practitioner throws his undiagnosed cases. If pemphigus foliaceus were due to a toxic elimination it is almost certain that the other excretory organs, namely, the kidneys, the lungs and the intestines, would show serious damage, and this has not been found to be the case.

On the other hand, we have certain definite information that would lead us to believe that the disease is due to an infection, and that in some cases at least, the Bacillus pyocyaneus is responsible. The disease spreads as one would expect an infection to do, the Bacillus pyocyaneus has been found in the unruptured vesicles, although a pure culture of Staphylococcus albus was obtained from the rest of the skin, the lesions have been reproduced on the patient by the inoculation of a pure culture of the pyocyaneus, the organism has been recovered from the internal organs at autopsy, and from catheterized specimens of the urine during life, the injection of a vaccine caused a violent reaction with the outbreak of a fresh crop of vesicles and, lastly, Rochemont's case definitely followed an infected finger.

Both dermatitis exfoliativa neonatorum and pemphigus foliaceus are due to infections, but there are certain characteristic differences. In the former there is an initial erythema, the infection spreads more rapidly, crusting occurs sooner, the vesicle formation is not so deep,

PLATE XVII.—To Illustrate Article by Dr. H. H. Hazen.

Fig. 1.
Second case of pemphigus foliaceus. The abrupt transition from healthy to diseased skin should be noted.

Fig. 2.
Second case of pemphigus foliaceus.

Fig. 3.
Dermatitis exfoliativa neonatorum. Notice large number of vesicles on the body.

PLATE XVIII.—To Illustrate Article by Dr. H. H. Hazen.

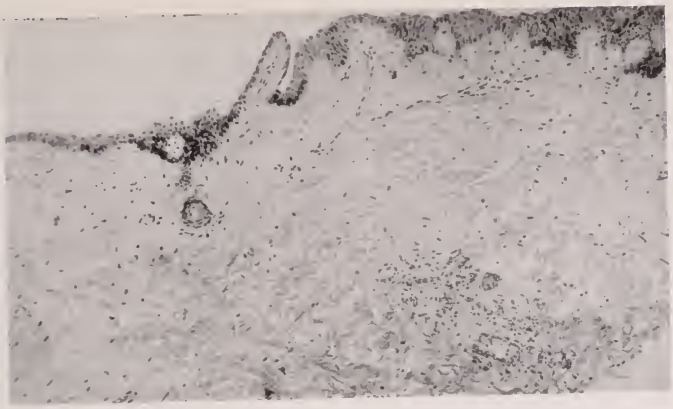

Fig. 4.

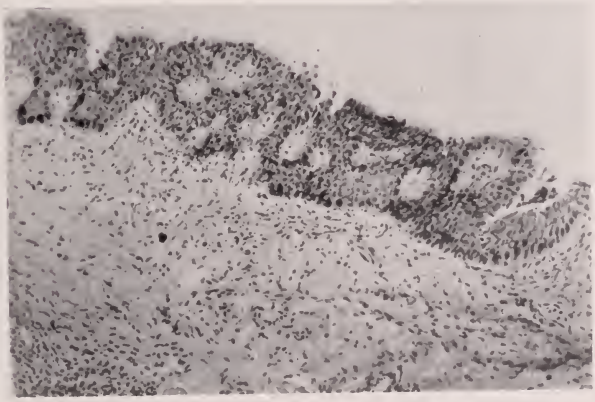

Fig. 5.

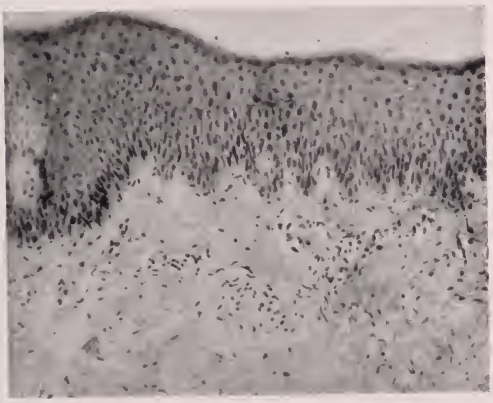

Fig. 6.

Figs. 4, 5 and 6 show the floor of one large vesicle in pemphigus foliaceus. Fig. 4 shows the central portion of the vesicle, Fig. 5 depicts the edge of the vesicle and Fig. 6 illustrates the apparently normal skin beyond the vesicle, but where the epidermis slid off under pressure.

and the mortality is not so high as in the latter. Objectively, however, the cases may be almost identical.

Conclusions.

1. Some cases of pemphigus foliaceus are undoubtedly due to a Bacillus pyocyaneus infection, and death may take place from a generalized infection with that organism.

2. The name dermatitis exfoliativa neonatorum is a bad one and should be abandoned, for the exfoliation is secondary to a generalized cutaneous infection, probably with the Staphylococcus albus.

3. The two diseases are different, though there may be gradations between them.

My thanks are due to Dr. Howard for referring the pemphigus case to me, and for securing the autopsy, and to Dr. Van Swearigen for help in the laboratory work. Drs. Strobel and Ketron of the Johns Hopkins Hospital did much of the work on the case of dermatitis exfoliativa neonatorum. Dr. Gilchrist has freely advised and helped me.

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FIBROMA SUBCUTIS.*

By M. L. Heidingsfeld, M.D., Cincinnati.

Professor of Dermatology at the University of Cincinnati; Dermatologist to the Cincinnati Hospital, etc.

THE following case of fibroma subcutis is of sufficient unusual clinical and pathological interest to merit a brief report.

W. K., of Clarkton, Va., a married woman, forty-one years of age, presented herself on Jan. 15, 1912, with a small circumscribed growth about the size of a No. 5 bird shot, situated on the dorsal aspect of the middle third of the first phalanx of the middle finger of the left hand. The small mass was freely movable under the skin and apparently adherent to neither the overlying cutis or underlying periosteum. It was round in outline and very firm and insensitive to touch and pressure and of the apparent consistency of cartilage. The overlying skin was to all appearances entirely normal. The patient stated that the lesion had been present for several years, but had begun so insidiously and enlarged so slowly that she retained no distinct recollection as to just when it first manifested its presence and she was not conscious of any material change in its development. There was no history or evidence of any predisposing trauma and no symptom save that of its mechanical presence. In the absence of a histological examination, the firm, smooth, rounded, and deeply imbedded character of the growth led the writer to make a tentative clinical diagnosis of "chondroma cutis (?)."

On the date of the examination, the lesion, which doubtless could have been easily shelled out of its bed by means of a simple incision, was removed with a portion of the overlying cutis, in situ, and after hardening and imbedding in paraffin was serially sectioned in toto and stained after the usual methods. It was in no manner adherent to, or in any perceptible way connected with the underlying periosteum.

The examination revealed that the growth was a fibroma of almost pure fibrous and of little cellular structure, situated well below the pars papillaris and true corium, and imbedded in the loose areolar connective tissue of subcutaneous fat. Careful microscopic examination of all sections in the serial revealed no histologic connection of the growth with any of the structures of the skin or with the underlying tissues. It was irregularly oval in outline and the outermost fibres were arranged more or less concentrically, forming its own capsule, which differentiated it sharply from the surrounding tissues, but faded imperceptibly toward its own centre. Careful examination of the serial sections failed to reveal the presence of any exciting foreign body and nothing of structural or material nature to indicate the mode of origin. Elastic fibres were abundantly preserved at the confines of the lesion, but were absent from the body of the growth. The tumor mass was well separated from all adjacent structures by a loose network of normal connective tissue, and all adjacent structures were perfectly normal in appearance. All the layers of the skin, epidermis, rete, pars papillaris, etc., were normal. The hairs and follicles, sweat and sebaceous glands, elastic fibres,

* Read before the Cincinnati Society for Medical Research, April 4, 1912.

PLATE XIX.—To Illustrate Article by Dr. M. L. Heidingsfeld.

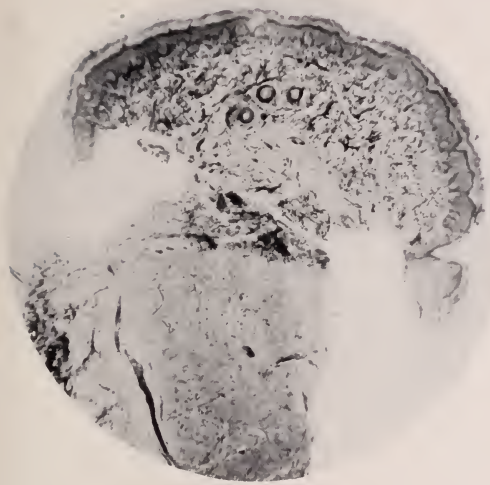

Fig. 1.

Fibroma Subcutis.
Shows the circumscribed, large single tumor in the subcutaneous connective tissue and its relation with the skin.

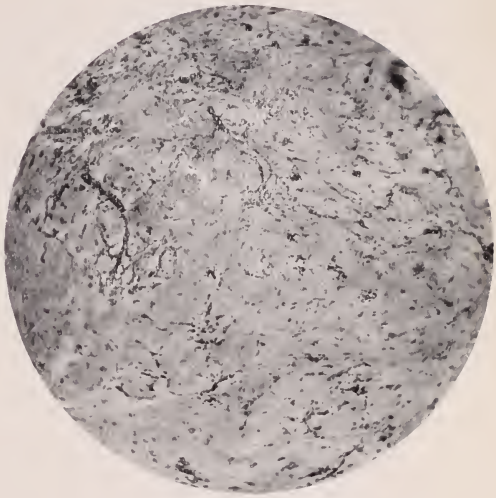

Fig. 2.

Fibroma Subcutis.
Shows the general structure under moderate magnification.

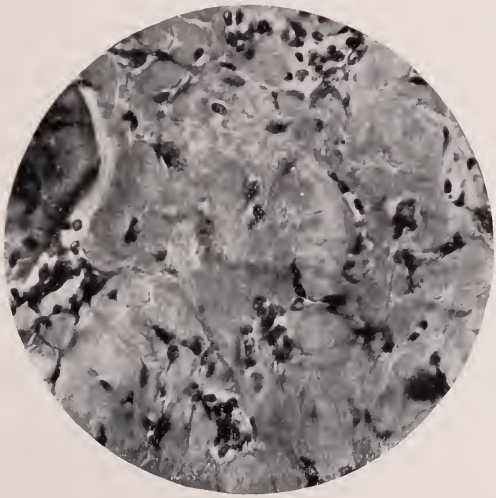

Fig. 3.

Fibroma Subcutis.
Shows the fibrocellular character of the structure of the tumor under high magnification.

vessels, etc., showed no variation from the normal. The tumor consisted almost entirely of connective tissue. It was sparingly interspersed with small round cells, which were rapidly changed to spindles and transformed into fibrillated connective tissue. These cells were gathered for the most part around small capillaries and lymph spaces. The cells bore no resemblance to the large rounded ones with oval nuclei of fibroma molluscum, and the stroma lacked the faint fibrillar character of this affection. There was no intertwining of the connective tissue, no arrangement into bundles, no invasion of the corium as is wont to occur in keloid in its varied forms.

The sharp, distinctly circumscribed character of the tumor and the absence of interlacing and intertwined bundles is unique, in the writer's experience, of fibroma of the skin. All cases of fibroma, even including those which bore no clinical resemblance to the keloid, have been situated, heretofore in his personal experience, in the corium and were made up of more or less intertwined bundles.

There is a dearth of cases in the literature of fibromata cutis which are in no manner related to keloid or neurofibromata. Nobl presented to the Wiener dermatologische Gesellschaft, a case which he diagnosed, prior to histological examination, as molluscum contagiosum giganteum, and which bore a deceptive resemblance to a nævus, initial lesion and epithelioma.

L. Perrin reported to the National French Dermatological Society, a case of subcutaneous fibroid of the penis and prepuce. Inasmuch as these lesions occurred in a syphilitic and in an area subject to recurrence and superadded infection, the findings must be open to some question.

Audry and Constantin report a case of fibroma situated neither in the cutis or subjacent tissues, which was freely movable and whose centre consisted of pure fibrous tissue. In contradistinction to the above reported case, the periphery, which was made up of loose connective tissue, contained giant cells. The tumor relapsed in multiple form in Audry and Constantin's case, on removal.

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AN UNUSUAL CASE OF DILATED CAPILLARIES.

By William Frick, M.D., Kansas City.

WE can easily understand how the blood vessels, large or small, may be dilated by simple mechanical obstruction, such as occurs sometimes when a tumor develops in such a way as to interfere with the normal circulation, or when a foreign body is introduced into the tissues in such a way as to press upon the calibre of a vein, preventing the normal return of the blood to the heart, or even when pressure from without interferes with the circulation. The dilatation may become permanent if the obstruction is permanent, but would naturally be local and not general in its distribution. This sort of obstruction, however, has nothing to do with the class of cases we have to deal with in the following report.

Human anatomy is an extremely complicated piece of mechanism, but the physiological function of these anatomical structures is much more complex. It is a fine piece of work to trace the blood vessels from the central organ—the heart—to the ramification of the capillaries throughout the body; it is still more difficult to trace the nerves from their origin, in the brain, spinal cord, or sympathetic ganglion to all the other anatomical structures which they control, but it seems to be an impossibility to ascertain which of these fine cords serves one function and which another of the numerous functions which they perform. There are two systems of nerves we are told; one the cerebro-spinal, and the other the sympathetic. These communicate freely through the sympathetic ganglia and seem to form a regular mesh-work of nerve fibres in all parts of the body. One of the functions of these nerves is to control the calibre of the blood vessels, thereby exerting a marked influence on the circulation. There are, according to prevailing opinion, two different centres which preside over these vaso-motor nerves. One is in the medulla oblongata which presides over the vaso-constrictors, the other which controls the vaso-dilators is unknown. All these vaso-motor nerves are supposedly derived from the sympathetic system. Their fibres run into the ganglia, which are located on either side of the spinal column or lower down in the solar plexus. That irritation of these ganglia accounts for some of the dilated capillaries we see, is believed to be true. How frequently we see that a full stomach will produce a

flushed face, which means a temporary dilatation of the blood vessels of that region. Again, how often a habitual user of alcoholics succeeds in cultivating dilated capillaries on his nose, and when the habit is continued the dilatation is extended to other parts of the face as well, until, finally, the telangiectasia becomes permanent. The same phenomenon occurs with other persons who habitually and for a long time, overfill the stomach with food, even though no alcoholics are used. What does all this mean? It must indicate the fact that irritation of the abdominal sympathetic nerves causes a dilatation of the capillary system. When this irritation is constant, the dilatation is constant, and finally becomes permanent. This, it seems to me, is the best explanation of the condition found in the following case, which was seen during life by many physicians in Kansas City, and was followed by me with an intense amount of interest up to the time of his death by violence. The report of this case was written up to the date given, with the patient in my office where I could make careful and accurate observation, and have all the history given verified by the patient himself, in order to make the report as accurate as possible.

Case Report.

Feb. 6, 1910.

The patient was a man, fifty years of age, for the last six years a laborer, but for fourteen years previously, an expressman, driving his own express wagon. He was a landscape gardener early in life. He was never married. His mother died in middle life of diabetes. His father died at the age of fifty-eight, cause unknown, and one sister at an early age, after the birth of a child. One brother is living and healthy.

Personal History. The patient always considered himself healthy. Height, five feet, ten inches. Weight, formerly 145 pounds, but for the last six years, 135 pounds. His weight quite recently has been reduced to 129 pounds. The first appearance of the cutaneous condition began fifteen years ago. It originated as ordinarily dilated capillary blood vessels on the end of his nose. This dilatation of the blood vessels gradually extended across the face. Five years later I saw him for the first time, and the disease had at that time extended over the whole of his face and appeared as numerous dilated capillaries distributed in a thick net-work. There were no other noteworthy symptoms; all the processes of functional activity seemed about normal. He had, at times, some disturbance of his digestion, which was called dyspepsia or indigestion. This was supposed to have been due to his eating at restaurants and boarding houses and to have been the cause of the dilated blood vessels in his face. He never was intemperate in his habits, never used alcoholics or tobacco excessively, and consequently they could be ruled out as the cause of this trouble. In the last ten years, since I first saw him, this dilatation of the capillaries has been slowly extending over the body from the neck down, gradually involving more and more of the skin until almost all of the integument of the body became involved. On the nose it still had the appearance of dilated capillaries, but on the cheeks and forehead it had a purple color which looked like there might be a deposit of pigment. At times this color

would disappear to a great extent and simply appear as a very red face, in which points of intensity could be seen everywhere. On the face, pressure with a glass slide was not sufficient to render the face pale, or press the blood out of the skin, but on some other parts of the body where the diseased process had not extended quite so far, the blood could be nearly all pressed out, leaving the skin pale, but with this paleness minute red points could be seen, indicating minute collections of blood cells (which I afterward found were within the capillary blood vessels). The skin below the knees and on the feet seemed to be free of this condition, and was normal in appearance. The palms of the hands were not involved, but the backs of the fingers were. It would be more correct to say the capillaries filled with blood were not seen on the palms because of the greater thickness of the epidermis. It is impossible to convey accurately by words the wonderful variations in color, and the modification in size of the minute blood vessels due to the changes of the amount of blood in the peripheral circulation. A full appreciation of these factors can be had only by personal observation. The mucous membrane of the mouth and the nose also contained dilated capillaries and whenever there was a flushed condition of the face, or an unusual amount of blood brought to the surface of the body, he felt a fullness in his throat which occasioned a slight cough. Since March, 1909, he had had an occasional looseness of the bowels, without apparent cause; at times this could be denominated a diarrhœal condition, but it seemed rather easy to control.

More recently there was observed an increasing inability to control the sphincters of both rectum and bladder, making frequent visits to the lavatory a necessity. When sleeping there was incontinence of urine. Also, there was a tendency to stagger when he walked and especially when he arose to his feet after being seated for a time. On several occasions he fell simply on account of his inability to retain his equilibrium (without any apparent cause). When he lost his balance forward he continued falling forward and when it was lost in the opposite direction he staggered backward until he came in contact with something that would support him, else he would fall. In other words, he was unable to regain his balance when it was partially lost. He said repeatedly that this staggering was not due to dizziness, but seemed to be simply a loss of balance.

Physical examination indicated normal lungs and a normal heart, with possibly an accentuated second sound; the liver was very much enlarged; it felt somewhat nodular and extended down to the umbilicus in the centre and almost to the crest of the ilium on the side of the abdomen; also somewhat farther upward than normal. A peculiar thing about the liver was that sometimes it appeared somewhat larger than at other times. A tumor mass was also felt in the median line, just at the edge of the enlarged liver mass. (This mass during life was taken to be a part of the liver, but the autopsy showed it was a tumor involving the lymph glands.) His liver was slightly sensitive to touch, but the patient did not complain of any special pain from the increased size of this organ. The spleen was hardly palpable.

The urine passed early in the morning, before breakfast, was apparently normal; I could find neither albumin, sugar nor tube casts. After a hearty dinner, in the afternoon, at a time when there was a tendency to an increase of color from the blood in the skin, a specimen of urine taken, showed an abundance of albumin present, also a high specific gravity and the presence of epithelial and granular casts. The quantity of urine passed seemed to be normal, as a rule, but at times increased. (This variation in presence and absence of albumin or tube casts was observed a number of times by myself, and also by two other physicians, to whom specimens were given for examination.) It seemed to be directly dependent, as far as I could observe, on the increase of blood in the dilated capillaries.

Pathologist's Report.

Dr. O. L. Castle, pathologist of the General Hospital, of this city, was kind enough to make urinalyses, a blood count and a biopsy. His urinary examinations were made some days later than mine and varied a little, but on the whole corroborated my own observations. His findings were as follows:

Urinalyses.

Feb. 9, 1910, quantity 120 cc., taken at 6 a.m. Color, pale; odor, usual; specific gravity, 1010; reaction, slightly acid; albumin, none; sugar, none; indol, none; casts, none found; blood, none; pus, none; mucus, some; epithelium, few cells. Later specimens taken at 11:30, a.m., same day: Quantity 15 cc.; color, dark brown; odor, usual; turbidity, slight; specific gravity, 1023; reaction, acid; albumin, (heat and nitric acid) present; quantity, 1/12 vol. (approximately): sugar, none; indol, positive; diazo, negative; biliary pigments, slight (shown by nitric acid test); casts, few fine granular and hyaline, five in one field, two in one field (2/3 objective); blood, none; pus, few cells; mucus, many threads; crystals, calcium oxalate, usual number.

Examination of Fæces.

Microscopical examination of contents of the fæces was as follows: Amount, copious; color, yellow; consistency, semi-fluid; form, none; fæcal odor; blood, none; food remains, amorphous; occult blood test, negative; parasites, none; bacteria, many. Very large amount of mucus.

Blood Examination.

The blood flow was scanty; scarcely as free as the ordinary in spite of the dilated vessels. Coagulability, normal; hæmoglobin, 80%; red cells, 5,340,000; white cells, 7,800.

Biopsy.

Small pieces of skin were taken from two different localities, showing different degrees of development. The first, from the upper part of the chest, where the dilatation of blood vessels had been going on longer than on the lower portion of the back, where the second piece was obtained. At the point where the last specimen was removed, the microscope gave a picture of dilated blood vessels, without pigment deposit, or any extravasation. In the further advanced section taken, the dilated capillaries seemed more numerous and the dilatation greater, besides which there could be seen some pigment outside of the vessels. This pigment was not abundant. Blood cells were seen in the dilated capillaries in both sections.

Photographs of the case were taken and I was preparing to have a water-color painting made by an artist, but before this could be accomplished, the patient, because of his helpless condition, committed suicide on March 10, 1910. Water-color drawings were made after death. The color remained in the skin about as it was sometimes during life. Of course, there was no variability in the intensity of color, or dilatation of the blood vessels after death. An autopsy was made by Dr. W. K. Trimble, pathologist of the University of Kansas School of Medicine, about 24 hours after death, and the findings were as follows:

Autopsy Report.

Committed suicide by shooting through the head, on the morning of March 10, 1910; an autopsy was held on March 11, 1910, at 8:30 a.m.

Male; length, 5 feet, 8 inches; fairly well nourished; weight about 135 pounds.

Surface of Body.—The face was a dark-red color, almost purple, with points of more intense color than the rest of the skin. The body was of a lighter red

color, varying somewhat, more intense over the breast from the collar bone down to within six inches of the umbilicus and slightly fading as it extended laterally and fading also as it extended down over the abdomen. In the centre of the back from the neck downward, the color was more intense. In some places a normal color could be seen with these red points stippled over the surface. This colored condition of the skin gradually faded as it extended downward, but it involved the greater part of the legs down to the knees. It also extended down the arms from the shoulder, involving the entire arms and the backs of the hands, somewhat less on the forearms than above the elbows.

Abdominal Cavity. The liver was very much enlarged, of a dark-red color; the enlargement involved the entire liver. Over the surface numerous light spots were to be seen which marked the formation of small, firm tumors, from the size of a pea to that of a walnut. These tumors involved the entire liver and accounted for its general enlargement. The organ extended from the umbilicus to the crest of the ilium and upward to the sixth intercostal space. The transverse colon was pushed down to the umbilicus; the small intestine was within the pelvis. One large nodule was observed in the mesentery of the small bowel within 18 inches of the iliocæcal valve. This nodule was about the size of a walnut. The serous covering of the bowel throughout showed marked enlargement of the capillary blood vessels. Also, the aorta in its serous covering had very decidedly enlarged capillary blood vessels. The mucous membrane of the stomach indicated the existence of a former gastritis. The pancreas was normal; the spleen was large, about three times the normal size and dark red in color. The kidneys were both enlarged and congested, showing dilated capillaries throughout. The adrenals were apparently normal.

Thoracic Cavity. The left lung was apparently normal; the right lung was also apparently normal, except that the tip of the middle lobe had a small consolidated area. The pleura contained the same condition of dilated capillaries as seen in the surface of the intestines. The heart walls were somewhat thickened; the myocardium was slightly pale. There was a chain of nodules along the attachment of the diaphragm to the spine, seemingly in the diaphragm. The bladder walls were thickened somewhat and its mucous membrane was pink from the dilated blood vessels.

Microscopical Examination.

Examination of the numerous sections of the skin by the microscope gave the same results as the macroscopical examination: Enormously dilated capillaries with blood cells collected in some places, and no blood outside the blood vessels.

Microscopic examination of the liver tumors indicated that they were carcinomatous nodules of secondary or metastatic nature. Where the original carcinoma developed could not positively be ascertained, but I believe the most likely place was in the region of the gall bladder. How long the carcinomatous process had been in existence I do not know, but the patient referred all his trouble to this region for the last five years of his life. How much longer there was a growth sufficient to exert pressure on the sympathetic nerves in this region can only be estimated. The autopsy showed a previous gastritis which may have been the irritation causing the beginning of this process.

The loose stools were due to dilatation of the capillaries in the coats of the bowels. The loss of control of the sphincters and loss of balance were probably caused by the capillary dilatation in the brain. It was remarked at the autopsy, that while the loss of blood through the wound inflicted was great, there still remained almost a normal quantity of blood in the body. The capillaries remained filled with blood.

I have looked up the literature on this subject and have not been able to find any report of another case that could be classed with this in its extensiveness and general distribution.

In conclusion I wish to express my thanks to the gentlemen who were kind enough to make the physical examinations and suggestions to me in regard to the management of this case; to Dr. Trimble for the autopsy findings and to Dr. Castle for the microscopic examinations.

I also wish to express my appreciation to Dr. J. A. Fordyce for his interest in the case and examination of the microscopic sections of the liver and skin.

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A RESUME OF THE VIEWS OF DE BEURMANN AND GOUGEROT ON THE SUBJECT OF SPOROTRICHOSIS.

By Ernest Dwight Chipman, M.D., San Francisco.

THE importance of the subject of sporotrichosis is best understood when one realizes that it is a disease of universal distribution which often presents lesions that are easily mistaken for tuberculosis and syphilis. The history of the disease dates back to 1898, when two cases were reported by Schenck, to 1900, when another case was described by Hektoen and Perkins, and to the discovery of what appeared another type by de Beurmann in 1903. From 1906 until the present the subject has been most thoroughly studied and made the theme of a succession of publications by de Beurmann and Gougerot.

The present outline reflects the teachings of de Beurmann which may be found more complete with bibliography in a recent volume entitled "Les nouvelles mycoses" by de Beurmann and Gougerot.

Clinical Forms.

Far from being exclusively a skin disease, it attacks not only the true skin, the hypoderm and epidermis, but also the lymphatics, glands, mucous membranes, eyes, ears, joints, muscles, viscera, etc. Its lesions are multiple and while all its forms are probably not yet known, it is convenient to classify such forms as present knowledge will permit. From the standpoint of morphology and topography de Beurmann and Gougerot recognize three groups:

1. Disseminated hypodermic gummata with associated skin lesions.

2. Localized hypodermic gummata—gummatous lymphangitis with or without initial chancre.

3. All the extra-cutaneous forms involving mucous membranes, bones, muscles, viscera, etc.

We may limit the present discussion to the first two, or the disseminated and localized cutaneous forms.

Disseminated Form.

The disseminated form is subdivided into three groups:

a Non-ulcerated.
b Ulcerated.
c Mixed.

The non-ulcerated, disseminate variety begins insidiously on any part of the body, there being no seats of predilection. Often they are discovered by chance. In number they may exceed a hundred, though most frequently there are from four to twenty-five. At first they are small, round, hard, movable and painless, not exceeding five or six millimetres in diameter. The lesion is evidently situated in the subcutaneous tissues, the skin above retaining its normal color. The skin is also freely movable over the lesion and there is no appreciable elevation. Little by little these nodosities enlarge and reach a diameter of twenty to thirty millimetres. As they enlarge, an elevation of the skin is seen and in the end the skin becomes adherent. When they have attained their height they present circumscribed, indolent nodosities. About four weeks after their first appearance they present lesions in every stage of development. From the fourth to the sixth week there takes place a softening which culminates in something quite like a cold abscess. This rarely opens spontaneously. The abscess presents a central depression with a surrounding, resistant zone which, if the contents are evacuated, persists as an indurated ring. In spite of the transformation of these nodosities into small, fluctuating abscesses, there results scarcely any stiffness of movement and only slight, if any, disturbance in the general state. Ulcerations rarely complicate this form except following incision. Later, the disease is characterized by gummatous lesions in all stages of evolution. Adenopathies are seldom present in this form. It must be noted, also, that the disease is polymorphous in respect to variety

of forms, but the appearance and behavior of these characteristic nodules is singularly constant.

So much for the non-ulcerating, disseminate form. The ulcerating, disseminate form goes through very much the same stages, but ulcerates more or less rapidly, sometimes in twenty days and sometimes in from two to three months. The lesions present very diverse aspects. Ordinarily they resemble tuberculous ulcers. Often the ulceration begins as a narrow fistula from which pus issues. The edges are ragged and may be thin or thick. The sinus is not necessarily situated at the centre of the softened zone, nor is the softened zone necessarily situated at the centre of the nodule. Less frequently this ulcerating form may take the form of ecthymatous lesions, such as result from coccic infection and sometimes they may simulate rupia or the precocious ulcers of malignant syphilis. The appearance of the scars is most interesting, for they may resemble those of tuberculosis with a thick, keloid-like centre, or those of syphilis with a flat, polycyclic aspect, with pigmented satellite points. In many other cases they may have a more special appearance with narrow, irregular, linear or stellate contour.

The mixed form presents a complex clinical picture. Early in its evolution it may be simple, but in the course of some weeks or months the variety of aspects is increased. The dominant note is polymorphism, which may be explained under three heads: first, lesions of different age or evolutional polymorphism; second, lesions of different aspects or lesional polymorphism; third, the concurrence of lymphatic, cutaneous, muscular, bone and other lesions, or polymorphism of association, or, what would perhaps be a happier phrase in English, regional polymorphism. We would then have evolutional, lesional and regional polymorphism.

By reason of the fact that there are no seats of predilection and further that, even in the skin, any layer may be involved, a great variety of clinical pictures results. We see, therefore, some forms resembling diseases of the epidermis or diseases in which epidermal changes are marked, as in ringworm, pityriasiform patches, or superficial vesiculation as in eczema and other forms in the same patient, involving the true skin, with papules and pustules of various sizes, ulcerated lesions covered with crusts, lupus-like infiltrations, ulcerated or non-ulcerated, or both. And so, though the diversity is great as to age, development and situation of lesions, it must nevertheless be remembered that the basic lesion which unites these various forms is the gumma.

Localized Sporotrichosis.

In some cases the disease remains localized. The parasite penetrates some cutaneous abrasion and determines an initial lesion, which is called by de Beurmann and Gougerot the sporotrichosic chancre. Following this there is an involvement of the neighboring lymphatics, which may present an indurated line studded along its course with small, gummatous nodules. Occasionally, the nearby glands react, but adenitis is not constant. Sometimes the initial lesion is passed by unobserved and nothing is to be seen but the gummatous lymphangitis. Exceptionally there is neither lymphangitis nor adenopathy, the infection remaining localized at the original point of entry.

Parasitology.

Concerning the parasite which provokes this variety of results, it is first of all interesting to note that it has been found free in nature by Gougerot in two places in the French Alps. Here, as when reclaimed from human lesions, it presents spores and mycelia. The mycelium is about 2 microns in diameter, colorless and shows abundant ramifications. Between the spores found in cultures and those taken from lesions, there is considerable difference. Those from cultures are longer and brown in color, while those from the lesions are short, thick bacilli, 3 to 5 microns long by 2 or 3 microns wide, basophilic, finely granular and encircled by a very fine, colorless membrane. The transition from the human into the laboratory forms has been witnessed in the daily observations by de Beurmann and Gougerot. Histologically, the tissues show a structure quite similar to that of syphilis, tuberculosis or chronic inflammation. Giant cells and a follicular arrangement, with epithelioid cells are generally noted.

Modes of Infection.

The contamination originates frequently in vegetable débris which comes in contact with an abrasion of the skin or mucous membrane. In one case a vegetable dealer became infected from his cap, which often rested among the vegetables in his wagon. On one occasion he placed it over an abraded surface of his forehead, which served as the point of infection. In another case affecting, also, a vegetable dealer, the parasite was found on the green vegetables which he was handling every day. Still another case resulted from a cut on the finger sustained in peeling a potato. The appearance of the parasite on certain living insects as flies, wasps and ants, suggests a pos-

sible mode of infection. Cases of animal origin have been reported. One resulted from a rat bite. Another occurred in a veterinary surgeon from an accidental cut with a bistoury, which he had just employed in opening some sporotrichosic abscesses in horses. Infection from the ingestion of contaminated food, green vegetables, fruit, raw or insufficiently cooked food, etc., is also considered possible. Individual resistance, however, is important. Strong, healthy subjects often escape infection, while, as in most conditions, a general depressed condition makes the infection much more likely. The most frequent predisposing cause is tuberculosis, which makes mistake in the clinical interpretation much easier than it would otherwise be.

Evolution.

The evolution of the disease is nearly always slow, the lesions retaining throughout a "cold," indolent type. Exceptionally there may develop as a complication an acute, "hot," abscess with acute signs and erysipelatous aspect, suggestive of secondary coccic infection. In such a case, observed by de Beurmann and Gougerot, however, no pus organisms were present. The duration depends upon the establishment of a diagnosis and the institution of proper treatment. Left to itself it may last for months or years.

Prognosis.

As to life and death the prognosis is usually favorable, for death, when it does occur, is usually the result of some intercurrent disease. Nevertheless, two deaths have been reported when the disease was of a very severe type and resistant to the ordinary treatment. As to cure, the prognosis is usually good when the diagnosis is reasonably prompt and the treatment correct.

Diagnosis.

The diagnosis is to be considered under two heads: clinical and bacteriological. The clinical diagnosis is made by the great number of lesions in contrast to the good, general health of the patient; the onset with indurated nodes, which slowly progress to suppuration; by the irregular borders, which may cover the cavity in which pus accumulates; by the narrowness of the ulcer in contrast to the extent of the gummatous infiltration; by the coexistence of several openings, or by two contiguous ulcerations from the same gumma and the persistence between the two ulcers of a fine bridge of violaceous skin; by the facility of autoinoculation; by the cicatrization in spite

of the persistence of the abscess; by the flat, supple, ragged-edged scars; by the usual absence of adenopathy.

No matter how characteristic the clinical appearances, however, the diagnosis must be confirmed bacteriologically. The direct search for the parasite in the pus and tissues, which would seem the simplest method, is in reality difficult, for in some cases the parasites are rare and the short, oblong forms in which they occur in lesions, are not easily distinguished from the débris of leucocytes and degenerated cell protoplasm. And while in general the parasite is Gram positive, more often in human lesions it has no election in its staining reactions. The direct identification of the parasite from pus while not impossible, is difficult. An exceptional diagnostic method is the intraperitoneal inoculation of a male rat which is soon followed by a characteristic orchitis in the exudate of which the parasites are abundant and recognizable by direct examination or culture. Various skin reactions have been suggested, but inasmuch as they are equally responsive to other mycoses their value is not great.

There are two special procedures to be recommended in practice, *viz*: the cold culture and the serological test. The cold culture is so called from the fact that no incubator is needed, nor even a laboratory. The materials required are some tubes of Sabouraud's glucose-peptone gelatine, a Pravaz syringe and a pipette. Pus and serum are taken from a closed lesion with a large needle and the Pravaz syringe after a preliminary washing of the surface with tincture of iodine and alcohol. From ulcerated lesions the sero-pus is taken in a pipette without previously washing the wound. The pus or sero-pus is then inoculated upon the tubes containing Sabouraud's medium. Half a cubic centimeter of pus should be inoculated upon each of three such tubes. These tubes are left unplugged in an ordinarily warm room which is free from any antiseptic vapors such as formalin. On the fourth or fifth day following, according to the temperature of the room, the sporotrichium develops. The appearance of the culture is pathognomonic only on Sabouraud's special medium, but by using it the diagnosis is positive and one needs only to see the culture once to recognize it. An ingenious expedient for the recognition of colonies before they are visible to the naked eye is to make inoculations by allowing a big drop of pus to run down the dry surface of the test tube in the angle between the concave surface of the glass and the flat surface of the gelatine. The parasites develop along the glass and may be recognized under the microscope. The tube is placed on the stage of the microscope at an angle

of 45 degrees so as to prevent the water of condensation moistening the culture; the tube is held in place by little pellets of melted wax or putty on either side and the tube examined with an objective B of Zeiss and a number 8 ocular. From the second day colonies are thus seen on the wall of the tube. The oblong sporotrichii swell and give off hyaline filamentous prolongations. From the forty-eighth hour a more or less coral-like and ramified parasitic star is formed, which is quite characteristic.

The serological procedure includes both sporo-agglutination and the fixation reaction. Sporo-agglutination is the homologue of the microscopic serum diagnosis of typhoid fever. Following the classical technique of Widal and Sicard of successive dilutions, one makes mixtures from 1/20, 1/50, 1/100, 1/200, 1/300 and 1/400 from the serum of the patient and the homogeneous spores of a culture of the sporotrichium four to twelve weeks old, which was grown on Sabouraud's medium. The special point in the test is the preparation of the homogeneous emulsion of the spores. A good quantity of the culture is ground dry in a mortar, then drop by drop it is diluted with an .8 per cent. salt solution, filtered through the ordinary Buvard filter paper which should be previously moistened. The filtrate should contain only spores free from mycelium. This may be ascertained by extemporaneous preparations for microscopic examination. Agglutination is accomplished in fifteen or sixteen minutes. The serum of sporotrichosics agglutinates between 1/150 and 1/800. The ordinary rate is between 1/300 and 1/400. Other mycoses may give the serum a power of agglutination, but it is more feeble, the rate being from 1/50 to 1/150 in actinomycosis and thrush.

The fixation reaction is made after the fashion of Wassermann or Noguchi. The important feature is the preparation of the antigen. For this an emulsion of sporotrichii grown on any medium is used. The serum of sporotrichosics fixes the complement of guinea pigs not only in the presence of cultures of sporotrichii, but also in the presence of cultures of thrush and actinomycosis.

Treatment.

Concerning treatment only a word need be added. Iodine both locally and generally is regarded as almost specific. Internally 4 to 6 grammes of the iodides daily and slowly increased to 8 to 10 grammes, represents the average dosage. It is well to combine potassium, sodium and iron iodides. Locally, nothing should be done

to the closed gummata except when resolution is delayed, when it may be evacuated with a needle and irrigated with nascent iodine water. Ulcers may be touched with tincture of iodine and dressed with a compress moistened with a solution containing iodine 1.; potassium iodide 10.; water 500. Incision is ordinarily to be avoided and such surgical procedures as curettage, excision and destruction by the galvano-cautery are only to be thought of in exceptional cases. The iodides should be given for a month after recovery to guard against recurrence.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, January 23, 1912.

HERMAN G. KLOTZ, M.D., *President.*

Pompholyx. Presented by DR. SHERWELL.

The patient, a veterinary surgeon, applied at the office on October 16th, for treatment for a trouble which was not immediately diagnosed. He was treated with an ointment containing calomel, resorcin, salicylic acid and oil of cade. He was also given anti-rheumatic treatment internally—quinine, sulphuric acid, magnesia, colchicum, and ergot, in combination. This seemed to relieve him, and he did very well up to the 25th, when an exacerbation occurred. He was then given potassium iodide, iron and arsenic in tonic doses. He was seen about every ten days thereafter. Another exacerbation occurred about November 20th. After that he became much better until the first week in December, when he had a fresh attack. This time he was given emulsion of bitter almonds and bichloride of mercury as a lotion. At each recurrence the hands and fingers would swell and vesicles and bullæ would develop. This was followed by exfoliation of the epidermis. The attacks were so severe as to preclude the possibility of manual labor. When presented to the Society, he was in fairly good condition and was using carron oil and taking a little anti-rheumatic treatment. It seemed to be an idiopathic condition and the question arose as to whether it was due to a nervous irritation of some kind. He had not been handling any medicaments which would account for the lesions.

DR. FORDYCE said that in the December number of the *British Journal of Dermatology,* Whitfield and Sabouraud had discussed eczematoid ringworm of the extremities and groin, and had called attention to a condition of the hands which was not unlike the case presented by Dr. Sherwell. He suggested that the scales in this case be examined for a fungus.

Dr. Jackson said that it did not seem altogether like a case of pompholyx, but appeared to be more of an eczematous condition.

Dr. Sherwell said that he had presented it as a case of pompholyx and that he believed it to be such. He had put a capsicum plaster on the man's back. He considered pompholyx to be somewhat analogous to herpes zoster and like it, caused by irritation of the spinal nerves. Counter-irritation seemed to be the rational treatment for the condition. He believed that Crocker was the first to advocate this treatment.

Dr. Jackson said that Crocker had advocated the use of a blister or mustard plaster over the nape of the neck for eczema of the upper part of the trunk; and over the small of the back for the same disease of the legs. He himself had used it once, many years ago while attending at the Skin and Cancer Hospital. The patient certainly improved under it.

Diffuse Mottled Pigmentation. Presented by Dr. Howard Fox.

The patient, Alexander M., was a boy two years and four months of age, born in the United States of Russian parents. His general health had always been rather delicate. He had walked at ten months, but had been somewhat backward in talking. Teething had been apparently normal. According to the mother's statement, the child had never taken any medicine internally or rubbed any salve upon the skin. He had been given a gargle a few times for a sore throat. The mother had never taken any medicine internally except for slight ailments such as a cold.

When the patient was six months old the mother noticed a small dark patch upon the back and about three months later a general pigmented eruption. This had slowly increased in area and become darker in color. Within the past month a few dark spots had appeared. At birth there was no hair upon the scalp, and for the first year the patient remained bald. The hair then began to grow, but had always remained thin and had lately begun to fall.

Examination showed the patient to be fairly well nourished, lively and intelligent. The hair of the scalp was reddish in color and sparse, the individual hairs being thin. The eyebrows were apparently normal; the iris was brown in color; the mucous membrane of the mouth was apparently normal. The toe-nails were brittle and dystrophic; the finger nails were normal.

The eruption consisted of a diffuse, brownish pigmentation of the entire trunk with the exception of the upper portion of the chest. It also extended upon the upper third of the outer and inner aspect of the thighs and the upper three-fourths of the internal aspect of the arms. The entire neck was also pigmented, but of a lighter shade of brown. The general brownish eruption was stippled with rounded, large pin-head sized, whitish spots of apparently normal skin. This area was smooth, entirely devoid of scaling and showed no evidence of scratching. A few deeply pigmented, irregular spots were also scattered over the general brownish area.

Diffuse Mottled Pigmentation, Probably Arsenical. Presented by Dr. Howard Fox.

The patient, Rose M., was a girl seventeen years old, born in the United States of Russian parents. For the first two and a half years of her life she was a very healthy child. She then suffered from a febrile attack followed by weakness of her left arm and leg. This condition gradually improved. At six years of age she went to school and soon developed a condition which her physician said was chorea. She then began to take medicine in the form of liquids and powders, some of the liquids being given in the form of drops in increasing doses. One of the remedies that she had taken was a patent preparation known as "Dr. McFarren's chorea cure." After the patient had taken medicine for about six months the eruption began to make its appearance. It was first seen upon the sides of the trunk and had gradually spread in area and become darker in color. It had never occasioned any itching. The menses were established one year ago and ceased three months later and had not reappeared since then.

The patient was rather poorly nourished and did not seem particularly intelligent. The hair was black and straight, the iris gray. The areola was darkly pigmented. The nails were normal. There was a general light brownish, mottled pigmentation upon the neck and trunk. It was especially marked upon the sides of the trunk, axillary regions and upper third of the inner aspect of the arms. The upper portion of the chest was only slightly pigmented. The face, arms and hands were free. The same pigmentation was also noted on the upper fourth of the inner aspect of the thighs. As in the first case presented by the speaker, the pigmented area showed numerous pinhead-sized, whitish spots of apparently normal skin, and a few irregular, deeply pigmented macules scattered over the general brownish surface.

Dr. Trimble said that the first case seemed upon superficial examination, to be a case of arsenical pigmentation. Sometimes these anomalies of pigmentation were followed by tumor formation. The large patch, which was isolated from the rest, suggested the idea that later it might turn out to be fibroma molluscum or von Recklinghausen's disease. He had seen four or five cases in the last few years, and all the patients had declared that the pigmentation was present before the tumor. The second case presented by Dr. Fox seemed almost typical of arsenic pigmentation.

Dr. Howard Fox thought it very instructive to be able to compare the two cases of pigmentation which he had shown, and which resembled each other so closely. While the second case was quite likely due to the ingestion of arsenic, this cause could apparently be ruled out in the first patient. He had considered Dr. Trimble's suggestion as to a beginning von Recklinghausen's disease. The case was somewhat similar to the one described by Darier and published in the *Pratique dermatologique* and which was termed profuse lentigo.

Tardy Hereditary Lues (Two Cases). Presented by Dr. Trimble.

The first patient, who was from Dr. Fordyce's clinic, was a girl aged nineteen. She was born in the United States and was single. Her illness dated back five months. When she first presented herself for treatment, both knees were much swollen and were exceedingly painful; synovitis was apparent on both sides. She was very anæmic and the blood examination showed only 45 per cent. of hæmoglobin. The Wassermann test was positive and she was placed on injections of salicylate of mercury. The improvement was rapid. Although the knees became almost normal after two injections, the left elbow began to swell and was exceedingly painful on pressure and movement. At the time of presentation there was a painful bursitis existing over the tubercle on the right tibia and a tibial node on the right leg. The skiagraph showed a distinct periostitis around the head of the radius on the left side and there was a small diseased area over the tubercle of the right tibia. The patient's family history was obscure, but it was stated that her mother died of tuberculosis. Careful examination revealed no other evidence of disease. The Moro tuberculin test was negative.

The second patient was also a girl, born in the United States, single, aged twenty-one. The only objective symptom at the time of presentation was an enlargement of the bones of the leg. The soft tissue seemed normal, but the legs just above the ankles were larger than formerly. The trouble began five years ago with much swelling, marked tenderness over the tibia and severe osteoscopic pains, which absolutely prevented sleep. For some time the patient was treated for rheumatism. She had weighed 127 pounds, but soon ran down to 97. She had presented herself for treatment about four months previously, and at that time the condition just described was apparent. The Wassermann test was positive and she was placed on anti-luetic treatment. The improvement was rapid and marked. She gained flesh from 97 to 123 pounds and all the symptoms subsided. The Wassermann became negative after three months of treatment. The skiagraph showed much thickening of both bones of the leg and the tibia and fibula on the left side were fully twice their normal size. There was also a condition of rarefying osteo-periostitis in both bones of the legs. The patient's mother was dead, but was said to have suffered from tabes during the last years of her life. One brother was living and presented a saddle nose and other evidences of hereditary lues.

Dr. MacKee said that the radiographs showed syphilis of the bone in both cases.

Dr. Klotz said that the symmetrical appearance was almost pathognomonic of hereditary syphilis.

Dr. Trimble said that he had nothing of consequence to add except to ask whether if one had to judge only by the bone lesions could one be sure whether

he were dealing with tuberculosis or syphilis? It was supposed that the shaft of the bone was more frequently affected in syphilis and the joints in tuberculosis. One of the cases had a lesion in front of the ear which looked a little like scrofuloderma. He had presented the cases to bring out a discussion as to whether one could diagnose syphilis from tuberculosis from the bone lesion alone. He had made a Moro inunction test on the girl, but it was too early for a report. The other case had been referred to Dr. Fordyce's clinic by Dr. Sayre. She showed no signs of tuberculosis.

Papilloma of the Tongue. Presented by Dr. Howard Fox.

The patient was a boy five years and nine months of age, born in the United States. He had always been apparently healthy. The lesion was first noted about three years ago as a "white streak along the middle of the tongue, followed later by little red pimples." There had been no previous traumatism. The lesion varied somewhat in size and at times became black and bled easily. When the tongue was swollen it caused considerable soreness and interfered with the patient's sleep. On examination the tongue presented a firm elastic swelling, occupying its anterior and left quarter and showing a raspberry-like appearance upon the upper surface.

Dr. Johnston suggested that it might be hemi-macroglossia.

Congenital Alopecia. Presented by Dr. Jackson.

The patient was a girl five years of age. She was born with a lot of exceedingly fine, fluffy, light-colored hair that was thinly planted on the scalp. The father had shaved her head three times with the idea that it might strengthen the hair. There was no history of previous cases in the family. The scalp was free of scales. There was no keratosis pilaris. The hair was light blond in color and stood out from the head like a halo, and was so sparse that the scalp showed through. The child appeared delicate, and had a fistula in her throat anteriorly that resisted all attempts at making it close.

Case for Diagnosis. Presented by Dr. Howard Fox.

The patient was a man, forty-nine years of age who presented a thick, friable, whitish membrane, between the right uppper gum and cheek, opposite the last molar tooth. The lesion had existed four months and had caused severe pain and interfered with his sleep. The tooth in question had been examined by a dentist who pronounced it to be in good condition. The lesion looked like a mould of some variety. Scrapings under the microscpoe showed, however, no spores or mycelia, but merely large numbers of small cocci. The lesion had been partially removed by an application of silver nitrate.

Dr. Sherwell thought that it was the result of irritation from the tooth.

Lichen Planus. Presented by Dr. Fordyce.

Dr. Fordyce said the patient exhibited a typical picture of lichen planus of the glans penis as well as of the mucous membrane of the inner side of the cheeks and lips. The rest of the body was entirely free. The patient was a Russian and the condition had appeared six weeks before.

Dr. Sherwell said that the head of the penis was a very common location for lichen planus. He had seen it there very frequently. It was as annoying as it was common. There was no question as to the correctness of the diagnosis.

Lepra. Presented by Dr. Johnston.

The man presented nodular lesions on the cheeks and ears and maculo-anæsthetic patches on the limbs. Both ulnar nerves were enlarged.

Case for Diagnosis. Presented by Dr. Howard Fox.

The patient (shown through the courtesy of Dr. Udo J. Wile), was a man, forty-three years of age, shown at the November meeting of the Dermatological Section of the Academy of Medicine, as a case for diagnosis. He presented upon the back, neck and abdomen, circumscribed patches of horny, follicular plugs, the lesions being accompanied by a moderate inflammatory process. The centre of the patches showed involution of the plugs and apparent atrophy. The eruption had been present about eight months and had been attended by considerable itching. A biopsy showed simple perifollicular inflammation; no lichen planus.

For the sake of comparison, Dr. Fox also showed a cast of a case showing groups of keratotic follicular lesions, with, however, no inflammatory reaction. In the centre of one of these groups of follicles was an infiltrated, violaceous patch that showed a typical structure of lichen planus under the microscope.

Necrosis Following the Infiltration of a Strong Alkaline Solution of Salvarsan. Presented by Dr. Kingsbury.

The patient was a man about thirty years of age, who had received an intravenous injection of salvarsan four weeks previous to the presentation. At the time of the injection the needle had not been inserted properly and a slight infiltration of the tissues had occurred. The needle was then at once withdrawn, placed in another vein, and the injection completed. When the bandage was removed from the arm two days later, it was found that there was a deep necrotic area at the site of the first injection. There was a slough of the vein and it was two or three weeks before granulation started.

Dr. Fordyce said this case emphasized the importance of careful surgical technique, not only in the preparation of salvarsan but also in its administration. The drug should be dissolved in water distilled on the day on which it was used and the solution prepared not longer than an hour before it was administered.

Furthermore, if any floating matter was noted in the solution is should be allowed to settle and the supernatant fluid poured off or filtered.

The operator should give his entire attention to the needle after it had penetrated the vein, as a very little movement on the part of the patient might cause it to perforate the opposite side of the vessel. If a few drops of the solution escaped into the surrounding tissue the patient immediately experienced a burning sensation. The needle should be instantly withdrawn and the infiltrated salvarsan solution expressed through the aperture made by it. A few drops would do no harm. Harm only resulted if the operator persisted in the administration of the drug after the infiltration occurred.

The speaker said he would like to call attention to the fact that many physicians who were administering salvarsan thought it necessary to cut down on the vein before inserting the needle. While this procedure might be called for in very exceptional cases, in the great majority it was entirely unnecessary. It furthermore compromised the patient and rendered subsequent injections of the drug more difficult. He had up to this time administered between 700 and 800 intravenous injections of salvarsan and had not in a single case been obliged to expose the vein.

Dr. Howard Fox thought that two or three drops of the fluid in the connective tissue would do no harm, but said that he had seen two cases which showed a terrible result from salvarsan. One patient had a linear scar six inches long, the result of several operations undertaken to remove a very extensive slough following the injection of salvarsan. In another case seen last summer, the operator had attempted to give salvarsan under ether. He had not gotten into the vein and there were no symptoms of pain on the part of the patient as a guide. A terrible infiltration of tissue resulted and the arm was two or three times its normal size. The pain was very great and extended into the axilla.

Dr. Whitehouse confirmed what Dr. Fordyce had said about the importance of the technique in the preparation and administration of salvarsan, though he had not found that the infiltration of a drop or two of the solution had done any harm. He now injects a syringeful of sterile water before instilling the salvarsan to make sure it does not infiltrate. It was thought by some, that unnecessary care was taken in the technique in his cases, but in the 150 intravenous cases he had done, outside of the first one or two, there had been no infiltration, and absolutely no trouble. He still insisted on personal preparation of the solutions; these he made at the office with sterile distilled water, and were absolutely clear and free from flocculi. He had found that the sodium hydrate solution was not uniform and it was necessary to test the mixture with litmus paper and make sure it was not too alkaline. It was important that here should be no flocculi and the solution must be perfectly clear; another important precaution was the temperature of the solution. He believed this might be of some importance as regards the subsequent reaction; it certainly had an importance in its effect on the patient. At a temperature of 104° or 105°, the sensations of the patient were practically eliminated; whereas a dropping of five or six degrees caused pain to be experienced by the patient and there was more reaction. The injection was given in the operating room, with every precaution in the way of technique and sterilization that was employed in a major operation, and the fact of his having had no untoward effect in a great number of injections would bear out the wisdom of this procedure.

Dr. Trimble said that he wished to add his emphasis to what had been said about the technique. An important point which Dr. Fordyce had mentioned was to prepare the drug in a clear solution with as little alkali as possible. He himself was especially careful about this. He had had a few drops infiltrate in the tissue, but had never, as yet, had a slough follow the operation. If it were

known how much the tissue could stand without sloughing, the needle could be withdrawn a little quicker. He used as little alkali as possible, so that in case there was some infiltration it would be of a weak solution and probably would not cause ill-effects. The weaker the alkali the less likelihood of a slough following infiltration.

Dr. MacKee said that he had made a number of intravenous injections of salvarsan to which no alkali had been added. It had been determined by Auer, Joseph and others, that the drug, in acid solution, could be injected with impunity as long as it was not too concentrated. The speaker had repeatedly infused 250 cc. of sterilized, freshly prepared distilled water, containing 0.5 gm. of salvarsan, without any local or general reaction or ill-effects of any kind. In addition, if a large quantity of the solution infiltrated into the connective tissue, no local reaction resulted. This was the only advantage of the method unless the simplicity of the technique could be considered of value. The speaker said that a very fine precipitate occurred when the dilute acid solution came in contact with the blood, but that this was quite harmless. If, however, the acid salvarsan was dissolved in only 50 or 100 cc. of water, a heavy, flocculent precipitate would occur in the blood and death would result from a blocking of the heart or of the pulmonary circulation. The method had been largely employed by Duhot and appeared to be quite as efficacious as the alkaline solution.

Dr. Howard Fox thought the work of Dr. MacKee and others was valuable in showing that intravenous injections of salvarsan could be given in acid solution. There was always a possibility for the operator to forget to add the sodium hydrate, an omission which he himself had been on the point of making several times. It was reassuring to know that the failure to make the solution alkaline by adding the sodium hydrate would not be followed by disastrous or even disagreeaole results, as Duhot had shown in a series of 800 injections.

Dr. Kingsbury said that he was convinced that the trouble had been caused by the solution of sodium hydrate that had been used. This, he believed, for some reason or other, had not been properly prepared. The accident was one that was unique in his experience, although he had given a fairly large number of intravenous injections.

Purpura or Multiform Erythema? Presented by Dr. Trimble.

The patient was a woman, aged twenty-eight, born in the United States, and married. Her legs from the feet to a little above the knees were covered with pale red lesions, varying in size from a split pea to a dime. Where some of the lesions were beginning to fade there was a distinct rust color. This color did not disappear on pressure. Many of the lesions were lumpy in character. When the disease first appeared there was a mild burning sensation, but no other subjective symptoms. The duration was three days and the process had begun after a hard day's work, and was preceded by intense muscular pains in the calves of the legs. The patient gave a history of having had several attacks of lumbago.

Dr. Robinson said that it was not always easy to make the diagnosis between urticaria and purpura. He had seen a case only recently with some well-marked urticarial lesions, and severe itching, and all over the buttock the skin looked as though it had been painted a dark color.

Case for Diagnosis. Presented by Dr. Johnston.

The patient was a young woman with lesions on the hands and around the mouth; in the nasal fold and on the alæ. The lesions were rounded,

discrete, small nodules projecting above the surfaces, purplish on the backs of the hands, and dull red on the face. Their tops were rounded; they did not pustulate or necrose. Incision produced only blood. There were no subjective symptoms. This histological picture was that of a granuloma, the infiltration consisting of lymphocytes, epithelioid and plasma cells lying about the coiled portions of the sweat gland.

Dr. Robinson said that he believed the case would prove to be an acnitis.

Dr. Trimble also thought that it was acnitis. A form of tuberculide.

Dr. Fordyce agreed with the diagnosis of acnitis.

Dr. Johnston said that the case was still under investigation. It had been under observation for a month. The patient had been carefully examined physically, the urine had been examined, and the Wassermann and von Pirquet tests had been made, but nothing had been demonstrated excepting a secondary anæmia; the origin of the latter was still in doubt.

Lupus Vulgaris Treated with Tuberculin. Presented by Dr. MacKee.

The patient was a girl, nineteen years of age. She was the most interesting of the series of cases under treatment with tuberculin, at the dispensary in Dr. Fordyce's Clinic at the University and Bellevue Hospital Medical College. She had first come under observation about five years ago with extensive areas of lupus on both cheeks, ears and both sides of the neck. The lesions were the result of ulcerative tuberculous glands. All the lesions, with the exception of an ulcerative patch on the left ear and three deep-seated, apple-jelly nodules in the left cheek, healed under the influence of fulguration and X-radiation. Tuberculin, in gradually increasing doses, was then administered for eight months without any appreciable effect on the ear lesion, although the tubercles in the cheek disappeared. Stock staphylococcic vaccine was then combined with the tuberculin treatment and the ulceration promptly disappeared.

Psoriasis, Vitiligo and Syphilis. Presented by Dr. Kingsbury.

The patient was a man about thirty-five years of age. He had had psoriasis for over fifteen years and when presented to the Society he had characteristic lesions on the trunk, extremities, and scalp. The vitiligo was of about five years' duration and there were large non-pigmented areas on the back, abdomen and thighs with smaller patches on the neck, scrotum and the backs of the hands. There were specific condylomata at the anus and a strong positive Wassermann had been obtained.

Dermatitis Herpetiformis. Presented by Dr. Kingsbury.

The patient was a negro girl about twelve years of age. She had had a vesicular and bullous eruption for three or four years. It was said to have been quite itchy and the mother stated that at home, the girl was always scratching herself. There were many small cicatrices at the site of old lesions and considerable increase in pigment. Hæmorrhagic bullæ

on the hands and other parts exposed to trauma were rather suggestive of epidermolysis bullosa.

Dr. Howard Fox said that this patient had been seen in Dr. Jackson's service at the Vanderbilt Clinic about two years ago, when she presented a generalized bullous eruption. She had previously been treated in the surgical department and upon enquiry it was ascertained that she had been given potassium iodide for glandular swelling of the neck. The idea of a drug eruption was then suggested. When the eruption had practically disappeared she was again given potassium iodide, and almost immediately presented a bullous eruption similar to her first attack. In view of the subsequent history it would seem likely that the case was one of the bullous type of dermatitis herpetiformis brought about at first perhaps by potassium iodide.

Dr. Kingsbury said that he did not believe that the condition was primarily a drug eruption, although he did not doubt but that iodide of potash would produce new lesions. He was very sure that the girl had not had any of this drug for at least six months.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Stated meeting, held October 3, 1911.

Jerome Kingsbury, M. D., *Chairman.*

Case for Diagnosis. Presented by Dr. George Fisher.

The patient was a man, twenty-one years of age, born in the United States. On October 30, 1910, he noticed a "sore" on his penis; a few days afterward a swelling in the left inguinal region was remarked. He consulted a physician, who gave him a dusting powder and some pills; the sore healed after a short time, but the swelling became worse and ulcerated. Another physician whom he saw the beginning of December, 1910, gave him mercurial pills for five months and then thirty intramuscular injections of bichloride of mercury (every second day). During this time the ulceration got worse and when he was referred to the Dermatological Department of the Paterson General Hospital, June 17, 1911, he presented about the same conditions as when presented to the Section; a chain of deep, sharply circumscribed, serpiginous ulcerations, extending from the inguinal region to the scrotum. All constitutional treatment was discontinued for seven weeks, in order to make a Wassermann test, which was negative. In spite of that he received an intramuscular injection (lumbar region) of salvarsan 0.6 gm. without any perceptible result as to his local condition. Another Wassermann test proved to be negative. The absence of secondary symptoms (he never had any roseola or sore throat), the inefficiency of any constitutional treatment and the two negative Wassermann reactions stimulated the conclusion that the case was not syphilis. A histological examination of the tissue gave the picture of a chronic inflammatory process. Smears were negative.

Dr. Klotz said that to make the diagnosis of phagedænic ulcer would not help much. He had seen similar conditions in connection with suppurating buboes and

had generally found them extremely resistant to treatment. He had obtained the best results from protracted or permanent baths. Several years ago a German military surgeon had published similar cases in which, after long ineffectual treatment, gonococci were found and applications of protargol or some other silver preparation, effected a cure. He thought it would be worth while to try some silver solution in the present case.

Dr. Pollitzer said that the literature contained many records of chronic ulceration in the inguinal region which were very resistant to treatment; and that in many of them an ætiological diagnosis was difficult or impossible. It was often possible to exclude syphilis, tuberculosis, soft chancre, gonorrhœa and diphtheria as causative factors and it seemed probable that mixed infections or unknown organisms played a rôle. In a case which he had published the lesions seemed to be autoinoculable and the secondary lesion so produced healed readily under the use of antiseptics, thus indicating the presence of some infection other than syphilitic. A radical excision preceded by the actual cautery and followed by skin-grafting was the plan of treatment he would recommend in this case.

Dr. Trimble said that at first sight the lesion seemed to be syphilitic, but that in view of the history given by Dr. Fisher, he was inclined to think it chancroidal. He had seen a number of severe cases of chancroidal ulceration following buboes and this case closely simulated one of this kind.

Dr. Pulsford said he had seen a patient giving a similar history and showing a similar lesion in whom the Wassermann was negative and a long course of mercurial injections and three injections with salvarsan, had been without effect. He believed Dr. Fisher's case to be one of chancroid.

Chancre of the Cheek. Presented by Dr. Kingsbury.

The patient was presented before the New York Dermatological Society, Sept. 25, 1911 (*Jour. Cutan. Dis.*, 1912, xxx, No. 1, p. 26).

Dr. Klotz called attention to the fact that the disappearance of these large and unsightly lesions was greatly hastened by the local use of mercury.

Lupus Erythematosus. Presented by Dr. Kingsbury.

The patient was a clerk, twenty years of age. He was native born, well-developed and in good general health. One year ago, scaly patches began to appear on his forearms and, later, on the backs of his hands. When presented, the lesions varied in size from plaques that were over two inches in diameter, to atrophic areas no larger than the split surface of a pea. Erythematous patches on both cheeks would later, no doubt, develop into well-marked lesions.

Papulo-Necrotic Tuberculide. Presented by Dr. Kingsbury.

The patient was a girl, nineteen years of age, apparently in good general health; born in Russia, but had been in this country for nearly ten years. She was employed as an operator in a factory and was well-developed and seemed fairly strong. The first lesions were said to have appeared on the knees after she had been here but a few years. These healed after a year and she had no further trouble until four years ago, when several rapidly growing glands were excised from the left side of her neck. About one year ago, after the operation, lesions developed

on the elbows and forearms and later, on the backs of her hands and fingers. When before the Section, the patient presented characteristic lesions in all stages, on the forearms and hands and numerous small cicatrices on the knees and legs.

Dr. Pollitzer called attention to the fact, so well demonstrated in this case, that the lesions of papulo-necrotic tuberculide always began as subcutaneous nodules, not as a folliculitis.

Chancre of the Tonsil. Presented by Dr. Oulmann.

The patient first consulted Dr. Oulmann four days ago. His lesion on the left tonsil at that time had existed for two weeks. The glands of the same side of the neck were swollen. There was no eruption on the body, but there existed a sore of impetiginous nature on the abdomen. There were, at the onset, two days of fever and chills. No spirillæ were found.

Dr. Klotz said that the lesion was not sufficiently distinctive to warrant a diagnosis.

Dr. Pollitzer said that he would not venture a diagnosis in this case, but did not think it was a primary lesion.

Dr. Gilmour said that though he thought this might be a case of syphilis of the tonsil, it did not look like a chancre, as it was not enlarged and to the eye appeared of the same consistency as the other tonsil.

Dr. Hubbard said that there was not enough redness around the tonsil for Vincent's angina and that a diagnosis was impossible without an excluding bacteriological examination.

Epithelioma of the Tonsil. Presented by Dr. Oulmann.

J. G., forty-two years of age, first consulted Dr. Oulmann one week ago. He had not been ill for the last twenty-five years. About eight months ago he noticed a swelling of the left tonsil, which increased in size. A short time after, he noticed a swelling of the neck on the same side, which gradually extended to the axilla and the pectoral region. From the throat department of the dispensary he was sent to the hospital and from there the patient was referred to the dermatological department, as inoperable, for X-ray treatment. During this time he had lost thirty pounds in weight. For four weeks the right tonsil, also, had been enlarged. Both tonsils were hard, the left one was ulcerated and the enlarged cervical glands produced a tremendous swelling of the neck. The blood examination failed to reveal anything abnormal and the smear from the tonsils demonstrated only pus cells and staphylococci.* also diminished and the patient gained in weight.

Dr. Pollitzer agreed with the diagnosis. The case was, of course, inoperable, as the glands were so extensively involved. One hard gland, as large as a walnut, could be felt in the pectoralis major.

*Four weeks after presentation the swelling had gone down under X-ray treatment; the tonsils were a third of their former size and the patient, who had been able to swallow only liquid food, could eat pretty well. The glands also diminished and the patient gained in weight.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting of the Philadelphia Dermatological Society was held in the College of Physicians Building, on April 10, 1911. Dr. C. N. Davis, *President*.

Case for Diagnosis. Presented by Dr. Stelwagon.

The case exhibited was a male of twenty-four with a large ulcer on the anterior portion of the right thigh, extending from Pourpart's ligament to the knee and which had lasted for four years. Mercury had been pushed to ptyalism without any effect on the lesion. The iodides had also proved unavailing. Two months ago the cacodylate of soda was started, three-quarters of a grain being injected every other day. The dose had gradually been increased and the patient was now receiving 1½ grains every other day. The result from this method of treatment had been excellent, fully one-half of the patch having healed. A section was made which exhibited nothing diagnostic, granulation tissue being found. Eight months ago the patient developed a secondard syphilitic eruption, the initial lesion being in the usual location and with no unusual characteristics. He infected his wife with syphilis. The development of a typical attack of syphilis a considerable time after the first appearance of the present lesion and the negative treatment with mercury and the iodides evidently excluded syphilis as the cause of the lesion in the thigh.

A malignant growth of some kind was considered by those present.

Deep-Seated Tinea Trichophytina. Presented by Dr. Schamberg.

The patient, a girl of four years, was exhibited with a deep-seated annular lesion, one-half dollar in size, upon the dorsal surface of the right wrist. The lesion was of four days' duration and was raised considerably above the level of the sound skin. There was no follicular involvement. The fungus was found by Dr. Hirschler.

Eczema Seborrhœicum (Extensive). Presented by Dr. Davis.

An unusually extensive case of this condition was presented in a male of twenty years, born of Russian parents. The outbreak had started some months previously. According to the history the scalp was first attacked and the other areas some weeks later. The entire scalp showed the typical scaly red condition so diagnostic of this disease. There was marked involvement of both axillæ, the pubic region and over the sternum. A large patch was noted posteriorly, extending over the scapulæ and half-way down the back. The patches were all characteristic of the condition.

Vitiligo (Extensive). Presented by Dr. Stelwagon.

A male of forty-five was exhibited who had first noted the start of the present condition thirty years ago. Nearly one-half of the extremities and of the trunk showed the depigmentation of the skin. The patient was presented to show the hypertrophic pigmentary condition surrounding the patches of leucoderma.

Dr. Schamberg mentioned the coincident appearance of vitiligo with Graves' disease.

Multiple Subcutaneous Growths (Previously Exhibited). Presented by Dr. Schamberg.

The patient presented at the last meeting of the Society was again shown. Although anti-syphilitic treatment had been tried there was no material change in the size or the consistency of the growths.

Supraorbital Zoster. Presented by Dr. Schamberg.

A male of thirty-five years was exhibited with a marked case of this disease of ten days' duration. The left side of the nose, the forehead and the eyelids had been attacked. There was considerable œdema below the left eye.

Syphilis. Presented by Dr. Finck.

The distribution of the eruption in the case presented was rather unusual. A male of twenty-two years had been attacked by the disease some six weeks ago and the eruption was practically limited to the extremities, the neck and the face. The palms were without an eruption, as was also the trunk, excepting the shoulders. The initial lesions developed at the usual site. Mucous patches were noted in the mouth.

Pemphigus Vegetans (?). Presented by Dr. Schamberg.

The patient, a male of thirty-five years, noted the start of the present condition some eight months ago. Lesions were noted beneath the scrotum, the inner surface of the upper thighs and in the axillæ. The tongue, the roof of the mouth and the lips exhibited an excoriated condition of the mucous membrane, probably as the result of broken-down blebs. Vegetations developed after the rupture of the bullæ. The rupture of the epidermal coverings was extremely painful. Salvarsan, 0.4 gm., was administered six days before the presentation of the patient. No change in the condition had as yet been noted.

Case for Diagnosis. Presented by Dr. Stelwagon.

A male of thirty-two years presented an unusual eruption of seven months' duration. Six areas were noted on the anterior surface of the

sternum, the centre and the left side of the abdomen. The lesions were silver-dollar to dime in size, sharply marginate, some showing slight oozing and yellowish crusting. There were a dozen three-cent-piece-sized lesions, dark-red in color, sharply marginate, without oozing upon the upper portion of the back below the scapulæ. In some ways the eruption resembled an unusual case of seborrhœic eczema.

Lichenoid Eczema. Presented by Dr. Hirschler.

A woman of thirty-four was presented with an eruption of fifteen years' duration. A palm-sized area on the right side of the neck exhibited the involvement. The patch consisted of pinhead-sized, flat and acuminated, closely grouped papules of a brownish-red color.

Dr. Hartzell said that he thought the case could be placed under the heading of névrodermite.

Urticaria Pigmentosa. Presented by Dr. Knowles.

A little girl, eleven years of age, was exhibited with an unusual eruption of nine months' duration. Numerous wheals were present scattered more or less generally over the cutaneous surface. There were also a hundred or more slightly elevated papules or plaques of a light to dark-brown color. The upper portion of the trunk, both anteriorly and posteriorly, exhibited these pigmented areas most abundantly. The itching was intense. Factitious urticarial wheals could be easily produced by irritating the skin. The face and the lower portions of the limbs were practically free from the pigmented areas.

Dactylitis Syphilitica. Presented by Dr. Davis.

A boy of twelve years was presented with a swollen condition of the fingers of eight weeks' duration. The index and the little finger of the right hand were swollen one-half again the normal size, tapering from the nail to the second phalanx where it was thickest. The little finger of the left hand showed the same condition. The little patient had lost a considerable amount of weight.*

Case for Diagnosis. Presented by Dr. Davis.

A male, twenty years of age, was exhibited with a swelling of an indefinite duration, some months, according to the patient, upon the dorsal surface of the right hand. The swelling was dark-red in color, one-half-dollar in size, with elevated margins consisting of yellowish-brown nodules. The lesion was boggy to the touch and a one-quarter-dollar-sized depression was noted in the centre. Blastomycosis was thought the probable diagnosis but the blastomyces could not be found.†

*Some weeks after the meeting the condition had practically subsided under the employment of inunctions of the official ointment of mercury.

† The case subsequently entirely healed under the internal administration of potassium iodide, ten grains three times daily.

Lupus Erythematosus (Unusual). Presented by Dr. Gaskill.

A male of twenty-five years presented an eruption on the face and the mucous membrane of the lip of one and one-half years' duration. The patient was a cigarette maker by trade and an excessive smoker. Several small, typical patches of the disease were present on the nose and the cheeks. There was a patch on the mucous membrane of the lower lip which presented very much the same characteristics as those on the cutaneous surface. The exhibitor considered that this patch was also lupus erythematosus.

Dermoid Cyst (?). Presented by Dr. Davis.

A male of forty-three showed a curious condition of five years' duration which had followed an injury. The buttocks exhibited several sinus-like lesions suggesting the possibility of a tuberculous infection. Although several cultural examinations were made no organism was found. A biopsy was made which presented stratified, squamous epithelium on the surface, beneath which was found firm fibrous tissue. Lymphoid and plasma cells were discovered around the blood-vessels. The specimen consisted of small pieces of firm, fibrous tissue, apparently a portion of a sinus wall. With this tissue were two fusiform masses of hair measuring 3x0.4x0.4 cm. The hairs all ran in the same direction, were not tangled up and were not attached at any point to the firmer tissues. The lesions were excised and the appearance was strongly suggestive of dermoid cysts.

Dr. Hartzell thought that the hair in the region attacked was excised with the section and a dermoid cyst was not present.

Retiform Pigmentation Associated with Cancer (Photograph). Presented by Dr. Hartzell.

Dr. Hartzell presented a picture of retiform pigmentation on the lower portion of the back and the inner surfaces of the thighs, in a woman the subject of cancer.

Frank Crozer Knowles, M.D., *Reporter.*

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

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Fred Wise, M.D.. New York.

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(1912, cxi, No. 1.)

Abstracted by Udo J. Wile, M.D.

Sarcomatosis Cutis (Spiegler). R. Polland, p. 3.

A sufficient number of clinical observations are recorded to permit the assumption that there exists a form of tumor resembling sarcomata but which is distinct from the true malignant sarcoma of the skin, as well as from the hæmorrhagic sarcoma of Kaposi, sarcoid and mycosis fungoides. To this group belong the cases first described in the literature as "sarcomatosis cutis" (Spiegler). Such cases are characterized by limited growth, absence of metastases and non-malignancy. Histopathologically, they are characterized by more or less circumscribed infiltration of the cutis with small cells, with very little disturbance of the connective tissue. The epidermis and the papillary layer are, as a rule, free from the infiltration, and this free zone has been described as characteristic. The tumors occur not only as nodules but also as infiltrated plaques. As in the sarcoid group, arsenic is of considerable use in causing the tumors to disappear. Pigmentation and, at times, atrophic scars remain as the only evidence after the disappearance of the lesions. In the differential diagnosis of such cases, the sarcoid tumors and lupus pernio must be ruled out. The former may be excluded by histological study; the latter is, at times, more difficult of differentiation.

The author narrates herein the typical clinical and histological findings of a case such as above described. The photograph of the patient showing the lesions as well as photomicrographs illustrating the histological picture, accompany the article.

The Significance and Explanation of Sexual Dreams. Moritz Porosz, p. 9.

The author attempts to classify normal and pathological sexual dreams. When a nocturnal pollution is accompanied by the dream of a normal coitus, of normal duration and not premature ejaculation, then the dream and pollution are the result of physiological stimuli, caused principally by overdistention of the seminal vesicles. If, however, the pollution is premature, or is accompanied by dreams picturing abnormal or incomplete sexual acts then an atony of the pros-

tate may be the underlying stimulus. Correction of this fault, according to the author, serves to restore the sexual dream to a physiological basis.

Eosinophile and Mast-cells in Vesicular Lesions of the Skin. Otto Pultz, p. 19.

This paper is the result of investigation of over one hundred preparations from the blood and contents of various vesicular lesions, with the view of studying the relationship between eosinophile cells and mast-cells, as first pointed out by Kreibich and Klausner. The lesions studied were vesicles in cases of eczema, scabies, herpes simplex, erythema multiforme, herpes zoster, dermatitis herpetiformis, a bullous pemphigoid eruption and vesicles produced artificially by croton oil and cantharides.

In the scabies cases, in the artificially produced lesions, and in herpes simplex, eosinophiles and mast-cells occurred together, the former being generally more numerous. In the vesicles of herpes zoster and in a vesicle from a burn, neither of these two cell types was found. Of particular interest was a case of dermatitis herpetiformis and one of acute pemphigus (benign). In both, a high eosinophile and mast-cell content was noted in the vesicle, with a relatively low count of these cells in the blood. Whereas Kreibich and Klausner found eosinophiles and mast-cells only in pruritic dermatoses, the writer was able to note them in the artificially produced vesicles on otherwise perfectly healthy skin. In general, however, the author's results corroborate the findings of these two writers, that with the few exceptions above noted the vesicular skin eruptions are characterized by a definite eosinophilia and mast-cell leucocytosis, and that a definite relationship exists in the occurrence of these two cell types.

Solid Œdema (Symmetrical Elephantiasis) of the Face. Pusey, p. 941.

The author reports three cases of the rare condition first reported by Hutchinson in 1883 as "elephantoid hypertrophy" of the face. In all the cases there is a history of repeated attacks of erysipelas, or of a less acute lymphangitis of the face. As a sequence of this the skin gradually becomes symmetrically thickened. The œdema, however, is only an apparent one, as the skin does not pit on pressure. The mucosæ, also, may be the seat of the process, and in Pusey's cases nasal infection was an associated feature. The streptococcus in most instances seems to be the infecting organism; according to the author, the condition may also follow staphylococcus infections. In long standing cases treatment is of no avail. In recent ones, however, the mucosæ should be searched for infective foci; general tonics and vaccine therapy are also suggested as of possible value in early cases.

On Some Papulo-squamous Syphilides and Their Relation to Psoriasis and Parapsoriasis. A. Ravogli, p. 45.

The author presents in detail the case reports of some examples of scaly syphilides closely resembling psoriasis and parapsoriasis. All the evidence, according to the writer, speaks for some relationship between syphilis and psoriasis, "Psoriasis is not a direct result of syphilis, but syphilis indirectly is a causative factor of psoriasis." As a result of his studies Ravogli concludes as follows:

1. Syphilides of squamous type resemble psoriasis.
2. In some cases of syphilis, psoriasis follows as a metamorphosis of the papular process.
3. In some cases psoriasis is a hybrid form and can be referred to as an attenuated luetic taint.
4. Psoriasis at times is influenced by iodides and also by mercurial preparations, but it is not influenced by arsenobenzol.

5. Psoriasis is not the direct result of syphilis, but only the result of an irritation on the vaso-motor centre; it can be considered in many instances as an affection of para-syphilitic nature.

The Use of Arsenic in the Dermatologic Practice of the Physician. Edmund Saalfeld, p. 959.

A brief essay on the uses of arsenic in dermatological practice, as well as its contraindictations and occasional ill-effects; nothing new.

A New Method of Removing Superfluous Hairs. W. Schwenter-Trachsler, p. 69.

For removing superfluous hair, the author recommends the following method which she has used successfully in 252 cases of hypertrichosis. After removing the entire growth (presumably by shaving), the patient is directed to rub in pumice stone twice daily. Under this treatment the hair is prevented from coming out, and if persisted in for about a year, sufficient atrophy of the hair follicles occurs to make the result permanent. After the first six months a four weeks' pause is made, and it is found that if any hair reappears, it is much finer than the original growth. This is again removed as at first and the treatment resumed, until about six months more, when the result becomes permanent. The skin itself is never injured.

(*To be continued.*)

Dermatologische Wochenschrift.

(March 9, 1912, liv, No. 10).

Abstracted by Fred Wise, M.D.

Extragenital Ulcus Molle; Report of a Case of Soft Chancre of the Foot. Edward Bruner, p. 277.

After Ducrey's discovery of the bacillus of soft chancre in 1889, Unna succeeded in demonstrating the organism in stained sections. Cultures of the bacillus were subsequently made by a number of investigators and inoculations into animals and men produced typical soft chancres. Extragenital soft chancres rarely show the characteristics of these lesions as they appear upon the genital organs and it is, therefore, often difficult to make a clinical diagnosis in such lesions; a soft chancre of the finger, for example, may simulate a panaritium, a circumscribed phlegmon or an ulcerated pernio. From the standpoint of clinical diagnosis, Siebert calls attention to the fact that the ulcer itself is painful, while there is absence of pain in the surrounding tissues; the remarkable resistance to the ordinary forms of treatment; the tendency to rapid ulceration and the progression of the destructive process underneath the apparently normal skin, point to a diagnosis of ulcus molle. Amende mentions the peculiar dark to violet red areola which does not obtain in the commoner septic processes. The diagnosis is usually dependent upon bacteriological findings. It is desirable to obtain a section from the edge of the lesion and to examine it after the method described by Unna. The streptobacillus will be seen in the form of characteristic chains, while the organism obtained from the exudate is a diplococcus. The presence of the streptobacillus in the sections is probably due to secondary infection. Statistics show that soft chancres may appear on any part of the body; in the order of frequency, they affect the following regions most commonly: fingers, lips, eyes, buccal cavity, upper extremities, lower extremities. Of 95 cases of extragenital soft chancre, 38 occurred on the fingers, 16 on the lips,

11 on the extremities, the rest elsewhere. In another series of 43 cases, 21 appeared on the fingers, 8 on the extremities, 5 on the lips, the rest on other parts of the body. As to the sex, of these 138 cases, 110 were in males and 28 in females.

In the author's case, a man of 26 presented himself suffering with gonorrhœa and soft chancres of the prepuce and of the orifice of the urethra. On the dorsum of the left foot, he had an ulcer about 3 cm. in diameter, with rolled and undermined edges, the base of the lesion being covered with granulations; the surrounding tissues were inflamed; pus could be expressed from the edges of the lesion. A smear preparation revealed the Ducrey-Unna streptobacillus, and a section from the edge showed the streptobacillus in long chains. The course of these extragenital soft chancres is usually benign and the treatment similar to that of the genital lesions.

Generalized Iodine Acne and Macular Iodine Exanthem After the Use of Tincture of Iodine. M. Hodara, p. 286.

A man of 67, of strong constitution, applied the tincture of iodine to his chest on three successive days, for an intercostal neuralgia. He then covered the affected area with an impermeable dressing. A few days later, the entire body-surface was covered by a pustular acne-like eruption. Constitutional symptoms were entirely absent. The acne pustules were discrete and disseminated everywhere, with the exception of the legs; here was seen a distinct macular exanthem, consisting of red, circular and irregularly-shaped patches. The mucous membranes remained unaffected. The urine showed 0.03 per cent. of albumin. The eruption bore a close resemblance to varioloid and varicella, but the complete absence of all constitutional symptoms and especially of the characteristic umbilications which obtain in the lesions of these two exanthems, excluded such a diagnosis. After three weeks, the acne lesions had become crusted and a few weeks later, the affected regions showed only smooth, reddened spots with no signs of pitting or scarring. In some regions, however, a papular iododerma and a macular iodine exanthem still persisted. The patient stated that on no previous occasion had he used iodine in any form, either externally or internally.

(*Ibidem.* March 16, 1912, liv, No. 11).

Cutis Verticis Gyrata. Hans Vörner, p. 309.

At the Ninth Congress of the German Dermatological Society, Jadassohn showed a forty-year old patient, in whom the scalp of the back of the head was arranged in irregular folds, varying from ¾ to 1½ cm. in width; laterally, these folds were more or less vertical in their arrangement, while they were more irregular and oblique in the median part. In all other respects, the scalp appeared to be normal, and the peculiar condition was discovered accidentally. This heretofore undescribed condition was considered by Jadassohn to be an anomaly of development. Unna subsequently described several cases of this type, under the name of cutis verticis gyrata. Although Unna could find no evidences of preëxisting inflammation, von Veress was able to demonstrate a case of this kind in a man of forty, in whom the affected part of the scalp showed a purulent dermatitis, consisting of irregularly scattered, raised, perifollicular lesions, arranged in a gyrate manner. Here and there the hair was absent and was replaced by small scars. In a case which von Veress examined histologically, he found that the hair follicles and epithelial columns within the grooves, differed from those examined in the skin between the furrows and that the connective tissue in the furrows was more dense; but there were no signs of inflammation. In another case, the skin of the furrows revealed a reduction in the size of the

blood vessels and sweat glands and a complete absence of the sebaceous glands, the hair and the elastic tissue. In their place he found a grouped, cellular infiltration composed of lymphocytes and plasma cells, together with large numbers of mast-cells. These findings convinced von Veress that the condition was preceded by inflammatory changes. Audry described a case in which the folds were preceded by a furunculosis of the back of the scalp and Pospelow, cases which were preceded by eczema and syphilis. In Bogrow's patient the condition followed an attack of alopecia areata. Oppenheim reported an instance in which the folds occurred on only one side of the scalp. In a case of Vignolo-Lutati's, the folds were hairless, smooth and shiny, of hard consistence and somewhat painful. Signs of inflammation and of desquamation were absent. The follicles showed a dense cellular infiltration in the cutis and subcutis, the superficial strata being almost normal. The infiltration consisted of small mononuclear and plasma cells with a few scattered giant cells, some of these being surrounded by epithelioid cells. At a distance from the infiltrated area, evidences of a beginning sclerosis were seen. The walls of the follicles were intact, but the epithelial elements of the cutis showed signs of degeneration.

The author describes a case of this kind under his own observation, in which all evidences of an inflammatory character were absent. The author believes that the case of von Veress was probably one of folliculitis decalvans and that Vignolo-Lutati's patient has a form of dermatitis papillaris capillitii. He thinks that the accidental gyrate conformation of the lesions caused them to be confounded with cutis verticis gyrata. In his opinion, this condition is always free of all inflammatory signs.

New Therapeutic Uses for Electrolysis. J. F. Kapp, p. 315.

The author calls attention to the needles used originally by Kromayer, for "subcutaneous electrolysis." These needles are provided with a varnish which insulates them from the surrounding skin, preventing the punctiform scarring produced by the ordinary needles. The use of these needles in the treatment of "crow's feet" is described by Kapp. The point of the needle and the distal portion of the shaft are coated with varnish; the eye of the needle is connected with the cable by means of a fine copper wire. The needle is introduced into the subcutaneous tissues, parallel to the folds of the "crow's feet" for a distance of about 1½ cm., allowing the insulated point of the needle to project at the distal end of the puncture; the needle must be insulated from the surrounding skin, both at the point of entrance and at the point of exit, the intermediate portion of the needle being non-insulated. Two such punctures are made, one on either side of the fold, one of them being then connected with the anode, the other with the cathode of an electric battery, using a current of a half milliampere, for a quarter to a half minute. The same process is then repeated, with the poles reversed. The skin becomes reddened and inflamed for a while, the fold flattening down after the subsidence of the inflammation. By this process, the raised fold of skin between its two furrows is absorbed, resulting in the production of a plane surface. Only two or three furrows should be attacked at one sitting. The treatment is tedious, but is the only one followed by good results. The author employs a similar method of treatment in cases of obstinate swelling and infiltration which sometimes occur after injections of paraffin into the skin. In such cases, the needles should be stronger and are allowed to remain in the skin for two or three minutes, with a current strength of three milliamperes.

(*Ibidem.* March 23, 1912, liv, No. 12).

Concerning Fever and Other By-effects After the Use of Salvarsan. Wachenfeld, p. 341.

In spite of much research, the by-effects following the use of salvarsan, such as chills, headache, vomiting, diarrhœa, etc., and the cause of the rise of temperature have not yet been satisfactorily explained. In considering this question, the fact must be borne in mind, that even the intramuscular injection of an acid solution of the drug will often cause a rise of temperature to 39 or more degrees centigrade, together with gastro-intestinal disturbances, whereas the "depot-fever" makes its appearance only after the fourth or fifth day following the injection. The present article is concerned chiefly with the phenomena of the acute fever and the by-effects following the intravenous injection. Several causes have been suggested for these phenomena: the varying concentrations of the salt solutions, the lack of sterility of the distilled water and of the salt solution, the presence of bacterial toxines in the sterile salt solution, and the decomposition of the salvarsan—these factors have been brought forward as being the possible causes of the by-effects. The great diversity of opinion among many writers induced Wachenfeld to make a study of the question. Since June, 1910, he has administered salvarsan 3,500 times among 1,600 patients.

In this study the author determined to ascertain if the decomposition of the salvarsan might be the cause of the by-effects following its administration; since no foundation for such a belief could be seen, he made accurate chemical, physical and bacteriological studies of the vehicles used for solvents, such as distilled water, salt solution and Ringer's solution. The differences between the sodium chloride of Merck and of Kahlbaum were noted, the question whether the solutions were made up hot or cold, the differences between fresh and stale preparations—all these factors were considered in conducting these experiments. Contrasts were made in cases with and without syphilis, as to the effect upon them, of infusions of salt solution alone and salt solution combined with salvarsan. These experiments proved of no value in determining the cause of the by-effects. It was also shown that the severity and the variations in the character of the by-effects following the intravenous infusion of salvarsan bore no relation to the stage of the disease at the time of the administration of the drug. It was not possible for the author to determine the exact reasons for the severe reactions, but he is convinced that the reasons given by Ehrlich and Wechselmann, namely, that they are due to the decomposition of the drug through the presence of microörganisms in the solving media, are not entirely correct. Experiments conducted in the Speyer laboratory upon animals, showed that the toxicity of salvarsan was increased in the presence of bacterial toxines plus trypanosomes; this would also probably hold true in the human organism. It may also be true that the presence of microörganisms causes a decomposition of the drug; arsenoxydul may be split off, producing the gastro-intestinal disturbances. Still, the cause of the fever remains unexplained. Ehrlich's theory is not tenable, because of the lack of uniformity in the character of the by-effects and the variations in the severity of the reactions noted by the author in a series of consecutive cases. Not only do the by-effects vary, but some of the patients had no by-effects whatever. Stale solutions of salt also proved to exert no decomposing effect upon the salvarsan. A comparatively large number of syphilitics reacted very markedly to the salvarsan, in whom there was a coexistence of gonorrhœa or ulcerations or a pustular dermatosis. It is probable that in luetic patients who have other lesions, associated with the circulation of microörganisms in the blood stream, the reaction is the most severe.

In administering the salvarsan, all possible precautions were taken to prevent the presence of bacteria in the preparations; on the hypothesis that sulphur may

be mixed with the solution from the inner surface of the rubber tubing, possibly causing a partial decomposition of the salvarsan, the author carried out a series of infusions, using only glass tubing. No difference was observed in the character of the reactions among the cases upon whom the rubber and the glass tubing was used. Prolonged contact with air causes the salvarsan to assume a darker shade, so that no time was allowed to elapse between the breaking of the ampule and the preparation of the solution; each patient received a freshly prepared solution. Arning has advised that if a stock solution be prepared for a larger number of cases, it should be allowed to remain acid until just before the infusion takes place, when the alkali should be added; no apparent differences in the by-effects were observed in the cases in which this procedure was followed. The salvarsan was dissolved in distilled water, made alkaline with 15 per cent. sodium hydroxide and diluted to 200 cm. with sodium chloride solution, all solutions being freshly prepared. A chemical examination of the distilled water for free acid and for traces of iron and copper proved negative; bacteriological examinations also proved negative. The water was passed through a Berkfeld filter; after eight days' use, examination of the "candle" of this filter revealed the following: externally, 27:0:0, internally, 17:0:0 colonies. Filtered salt solution gave the same results as the unfiltered. In 24 patients a salt solution was employed which was resterilised on eight successive days for one hour; the by-effects in these patients differed in no respects from those observed in other cases. Experiments were conducted with Merck's 5 per cent. sodium chloride, which was dry sterilised before being dissolved in double distilled hot water; the salvarsan was dissolved in hot distilled water, just before using. The salt solution was allowed to cool to 37° C. Of the seven patients in this series, six had fever over 38° C., one had 39.3° C. With two exceptions, all of them had severe chills, four complained of severe headache, in three there was vomiting and in four diarrhœa. Ten days before, these seven cases had received intramuscular injections of salvarsan, followed by no reaction whatever, only a slight rise of temperature. On the supposition that the water used to dissolve the salvarsan was too hot, causing the above mentioned ill-effects, the same experiment was repeated on a series of 10 patients; of these, the temperature in 2 rose to above 38° C., in another two to above 39° C., accompanied by the same by-effects as in the first series. In all, 21 patients received solutions made up with Merck's 5 per cent. sodium chloride, the salvarsan being dissolved in hot, freshly distilled and sterilised water, out of whom 11 had fever above 38° C. The same experiment was repeated in 29 cases, using salvarsan dissolved in cold water; of these, eight had fever above 38° C. In the following series of cases, the salvarsan was dissolved in cold water. In 33 cases, in whom Merck's 9 per cent. sodium chloride was used, 16 had fever above 38° C., two of which had a rise above 39° C. With Kahlbaum's 5 per cent. sodium chloride, 6 cases out of 29 had above 38° C., with the 9 per cent. salt, three out of 27 cases showed a rise of temperature above 38° C. Among 26 cases in whom salvarsan and water only was used, seven patients had above 38°C., of which three were above 39° C. The same results were obtained with Ringer's solution. The freezing points of the solving media and of the blood remained unchanged in the various solutions employed. About 46 per cent. of the cases which received infusions had fever above 37.5° C., and 39 per cent. of them, above 38° C. After the second infusions in the same patients, the rise of temperature was either absent or very slight; in patients receiving the third infusion, no fever was noted, and there was an absence of by-effects. It has been suggested that those patients in whom the salvarsan solution was allowed to run into the vein rapidly, reacted more severely than those with slow infusions; experiments proved this to be untrue. It was also shown that the by-effects were absent in non-luetic cases, who received salvarsan infusions alone

and salt solution infusions alone. Further research showed that there seemed to be no relationship between the various stages of the syphilitic disease and the severity of the by-effects following the infusions, nor was there any ratio observed between the height of the fever and the severity of the Herxheimer reaction. In a large number of cases receiving the intramuscular injection of salvarsan, the by-effects were, in a general way, similar to those following the infusions, but usually they were neither as prompt, nor as stormy.

It must be conceded that the drug reacts upon the luetic patient, in a manner differing from the actions of other drugs studied heretofore. The fact must not be lost sight of, that large doses of mercury may frequently give rise to severe elevations of temperature in luetic patients, especially in infants with congenital syphilis; furthermore, it must not be forgotten, that severe cases of the disease itself, may cause a spontaneous fever. It is not to be wondered at, that the sudden simultaneous destruction of a large number of spirochætæ will cause a rise of temperature. A number of the patients complained of a painful sensation in the gums during the infusion; this fact may have some bearing on the large number of different spirochætæ existing in the buccal cavity. The subjective symptoms of the patient seem to bear no relation to the character of the by-effects in most cases. Some of the cases felt well with high temperatures, others poorly with low temperatures. The Herxheimer reaction was observed in all cases showing a maculopapular rash. No serious complications, such as collapse and brain œdema, were observed in any of the cases. In suckling infants, a remarkable blanching of the skin persisted for weeks after the administration of the salvarsan.

In spite of all experimentation, the cause of the fever could not be placed at the door of the solving media of the salvarsan, any more than the cause of the by-effects. Nothing has been accomplished thus far, to warrant the belief that the reaction is caused by the existence of bacteria and their endotoxines in the solutions.

The author leans toward the belief that the cause of the reaction is to be looked for in individual differences in the salvarsan itself, in the disintegration of the spirochætæ and in the presence, in some instances, of other infections in the blood stream and in the tissues. With the knowledge we have at hand, we are unable to avoid the occurrence of by-effects in all cases.

(*Ibidem.* March 30, 1912, liv, No. 13).

The Treatment of Itching Skin Diseases with Normal Human Serum.

Linser, p. 365.

In a severe case of impetigo herpetiformis which seemed to resist all ordinary treatment, an injection of serum from a normal pregnant woman brought about a complete and rapid cure. Records of such cases are constantly increasing and instances in which the fever and the intolerable itching immediately subside after such an administration of serum, are common; the injection of serum from a non-pregnant woman has proven to be of no benefit in these cases. Whether the injection of serum from a normal pregnant woman supplies a substance which the recipient is lacking, or whether a toxine in the blood of the patient is thereby neutralized, it is not yet possible to say. Aside from impetigo herpetiformis and other dermatoses associated with pregnancy, the author employed this treatment in other pruriginous diseases with favorable results. In the different forms of urticaria, especially in infants, in strophulus, prurigo and infantile eczema, the results were highly gratifying. In the last class, especially, the itching was quickly relieved and scratching ceased, whereby half the battle was won. But in these cases it was found necessary to combine the serum treat-

ment with the usual external remedies. The most striking results were obtained in that most obstinate of itching dermatoses, senile pruritus; cases which had derived no benefit from saline infusions, as recommended in these cases by Bruck, responded well to the serum treatment. In the universal eczema of adults, in a considerable number of such cases, both the itching and the eruption showed marked improvement.

The technic is simple. Careful study of the subject has taught the author that a marked difference exists between the serum of a normal, healthy woman and of a healthy, pregnant woman; hence, only the serum of pregnant women is used in pregnant women afflicted with skin diseases suitable for this treatment; it is not used in the non-pregnant. A difference also seems to exist between the serum of males and females, so that only the serum of like sexes is employed in the male and female patients, respectively. The fresher the serum, the better. Fifty cubic centimetres of blood are withdrawn from the arm of a healthy person (negative tuberculosis and Wassermann), directly into a sterile centrifugalizing tube containing glass beads; this is then thoroughly defibrinated by shaking for about five minutes. The serum is then separated in the centrifugal machine, is sucked up with a sterile syringe and injected into the vein of the patient; in children, the serum is administered subcutaneously. The usual dose is from 10 to 20 cc. Three to five such infusions are given on successive days and then the patient is placed under observation; should no favorable results appear, the treatments are repeated; some of the cases have received as many as sixty infusions. Anaphylactic phenomena do not appear. The patients are ambulatory.

The Life-outlook of Congenitally Syphilitic Children. O. Sprinz, p. 368.

The last census in Germany showed a retrograde birth-rate, despite the increase in the population. Measures to prevent the drop in the birth-rate have been instituted in various European countries; the care of congenitally diseased children is a very important factor in the maintenance of the rate of population, and a number of free institutions for the care of syphilitic children are now in existence. In 1909, O. Rosenthal succeeded in his efforts in behalf of luetic children, with the result that a home for them is now flourishing in Berlin. From the standpoint of humanity, these institutions are to be commended, but the author raises the question whether the results obtained are of a relatively high enough order to justify the expense of maintenance to the State. Does a reasonable majority of these children become useful members of the community? Do these children become healthy adults? The number of these patients at present residing in homes is too small and the period of observation too short to render reliable statistics as to prognosis; information can, however, be gleaned from the numerous statistics and other publications which the author has collected, on this subject.

On account of its great length and its many sided aspects, the author's article does not very well lend itself to abstracting; but a good idea of its scope may be gathered from the following sub-headings, which Sprinz discusses in detail.

The opinions of prominent authors regarding the general prognosis of congenital luetics. The polymortality of fœtal syphilis. The viability of the prematurely born. The viability of the mature, live-born children. The causes of death. The influence upon the prognosis of the stage of syphilis in the parents. The significance of syphilis in both parents with respect to the prognosis. The influence of anti-syphilitic treatment of the parents. The influence of the social conditions and of the nutrition of the child. The numerical relation between luetic children under medical care and the entire population. The significance of the time of the first manifestations of the disease in relation to the prognosis. The prognosis in syphilis præcox. (*To be continued.*)

(*Ibidem*. April 6, 1912, liv, No. 14).

A Case of Gonococcæmia and Generalised Gonorrhœal Exanthem. M. Hodara, Osman Bey, Izet Bey and Chevkiet Bey, p. 397.

The patient was a 26 year old man, presenting an eruption consisting of erythematous patches and annular lesions of a livid-red color, the whole resembling erythema multiforme. The lesions were present on the thorax, abdomen, the face and a few on the upper and lower extremities. He had a temperature of 39.4° C. After a day or two the eruption became generalized with the appearance of various sized bullæ, some serous, some purulent, others hæmorrhagic. This eruption spread over the entire body, the face and hands becoming markedly œdematous: there were conjunctivitis and inflamed patches in the mouth. Notable points in the rash were its symmetry and the net-like conformation of some of the erythematous lesions. The fever continued for eleven days, lysis beginning on the eighth day of the disease. The patient was markedly asthenic. He was relieved by applications of hot boracic acid. The resemblance to erythema multiforme was soon lost and the rash assumed the appearance of a partly erythematous, partly bullous, generalized infectious eruption. After the drop in temperature, the bullæ began to dry up, form crusts and heal; the erythematous lesions began to scale off with the formation of large lamellæ and on the twentieth day of the disease, only a few, scattered, erythematous patches were to be seen.

The patient not having ingested any medication to warrant the appearance of the eruption, and no other ætiological factors being discoverable, the blood was examined and revealed enormous numbers of typical, gram-negative gonococci. The red blood cells showed marked changes, for they appeared in large, clumped masses, upon which numerous gonococci were found. The patient admitted having had a urethral discharge, a few days before the eruption made its appearance. Examination revealed a discharge containing numerous gonococci so that the case was undoubtedly one of gonococcæmia with a generalised gonorrhœal exanthem. According to Scholtz, very few investigators have succeeded in demonstrating the presence of gonococci in the blood stream; for, even if they reach the blood through the lymph vessels, they quickly die, without giving rise to clinical phenomena. Actual gonococcæmia is, therefore, a very rare condition and when it exists, the gonococci can be demonstrated only at the height of the fever; in the case here reported, no organisms could be found in the blood after the temperature had dropped. According to Buschke, four rare exanthems may occur as a complication of urethral gonorrhœa: 1, erythema scarlatiniforme; 2, urticarial or erythema nodosum-like lesions; 3, a bullous or hæmorrhagic exanthem; 4, variations of these or other polymorphous eruptions. These eruptions may persist for days, weeks or months, healing in one region and reappearing in another, accompanied by fever to 40° C., or they may run an afebrile course. They may appear with metastatic complications in the heart or the joints. Another rare dermatosis accompanying chronic gonorrhœa is a symmetrical hyperkeratosis of the hands and feet, lasting for months. These dermatoses are said to be due, partly to the gonococci themselves in the blood stream and partly to their toxines; the nodular lesions may be caused by gonococcal emboli, according to Scholtz; he found that some of these nodules became abscesses containing gonococci. The macular, urticarial, hæmorrhagic and bullous forms are probably due to purely toxic phenomena, called forth by the gonococcus toxine.

A piece of the affected skin was excised for histological examination. The sections revealed stasis of and changes in the blood; thrombi had formed in a number of subpapillary vessels and in the capillaries. The vessels of the cutis and the capillaries of the papillæ were dilated and filled with blood. Some of the capillaries contained partial or total thrombi, consisting of broken down,

colorless blood cells, closely massed; others contained fibrinous or granular detritus, filling the lumina of the vessels; some contained normal lymphocytes and a few leucocytes; partly hyaline and partly leucocytic thrombi were formed by degenerated and broken down lymphocytes and leucocytes. The cutis showed marked œdema, the lymph spaces were dilated, the collagenous fibres swollen; the œdema was most marked, however, in the papillary bodies, some of the papillæ being enormously swollen. The walls of the vessels and of the capillaries were infiltrated by the hypertrophy and proliferation of the perithelial cells: around the vessels of the cutis, especially in and beneath the papillæ, migrated lymphocytes were seen massed together; these were also seen in the intervascular tissue of the papillary bodies. A moderate number of polynuclear leucocytes and mast-cells were noticed along the blood vessels and in the papillary bodies: large masses of lymphocytes surrounded the follicles and the sweat ducts. The connective tissue cells were also proliferated and hypertrophied, chiefly in the papillæ, less so in the cutis. The elastic fibres also showed hypertrophy.

The epidermis showed the remains of the scale composed chiefly of cells which had formed the prickle cell layer and arranged in strata containing polynuclear leucocytes and more or less flattened prickle cells. The scale was about to detach itself and underneath it was found a normally keratinised horny layer, a new, wide nuclear layer and an abnormally increased prickle cell layer; this layer was markedly proliferated, forming large cones, dipping into the cutis. The middle and lower strata showed large numbers of mitoses; the protoplasm and the nuclei of the cells were voluminous and mildly œdematous, with here and there, evidences of intercellular œdema. It was not possible to demonstrate gonococci in the vessels of the cutis, as the biopsy was made eleven days after the onset of the disease, when the temperature was normal and the blood examination negative.

The patient received anti-gonococcus serum injections, in the shape of Schering's artigon; he recovered without further complications.

The Life-outlook in Congenitally Luetic Children. O. Sprinz (*continued*), p. 402.

In this instalment, the author gives us further evidences of his laborious researches in the literature of this subject, discussing the topics under these headings: Récidives; syphilis hereditaria tarda; tuberculosis and hereditary syphilis; affections of the central nervous system on a hereditary syphilitic basis. Under the last heading he discusses the weak-mindedness of children, from the mild grades to the high grades of idiocy; statistics on idiocy in hereditary syphilitics, based on clinical evidences; epilepsy; cerebral paralysis; infantilism; lues asymptomatica. (*To be continued*).

Jahrbuch für Kinderheilkunde.

(January, 1912).

Abstracted by Harvey P. Towle, M.D.

The Epidemiology and Early Diagnosis of Measles. P. Rohmer, p. 79.

The question of the time when measles becomes contagious gives practical interest to the early diagnosis of the disease by rendering more efficient prophylaxis possible.

Rohmer sums up the present day knowledge of the epidemiology of measles as follows: The incubation, from the moment of inoculation to the outbreak of the exanthem, is fourteen days (13 to 15). Inoculation is ordinarily by direct contact. Transmission of the disease through the air, except in the most imme-

diate neighborhood, does not occur. The transmission through a healthy intermediary or articles of use is possible over a short distance, although rare. Such transmission over greater distances is, however, most exceptional. The length of the period during which the disease is infectious is not settled.

Rohmer pursued his investigations during an epidemic of measles which occurred in a hospital. Contrary to the usual opinion, he found that isolation of the cases of measles within the clinic was no protection against the development of new cases. In fact, his experience seemed to show that it was the rule for the disease to be transmitted through healthy intermediaries. He further concludes that the exanthem is infectious throughout its entire existence. Furthermore, he concluded that the stage of desquamation was not infectious. It was his custom to discharge the children to the general ward as soon as the fever had disappeared, the eruption faded away and the catarrhal symptoms no longer existed. He never saw a case of fresh infection arise in the general ward from any of these cases. He found three cases which apparently were infected during the catarrhal stage, but he considers this exceptional. Although the usual incubation stage was about fourteen days, this was not absolutely constant.

Koplik spots, he says, are often the first sure sign of the beginning sickness. Nevertheless, they develop rather late in its course, inasmuch as they appear only one or two days before the outbreak of the exanthem. There is, however, a symptom which, in the majority of his cases, in children over one year old, preceded the presence of the Koplic spots, namely, fever.

His conclusions are that the incubation stage is not completely without reaction; further, that there is no sharp division between the incubation and the catarrhal stages; the first symptoms of the disease can often be detected early in the stage of incubation; that the most delicate index for these occurrences is the temperature curve. There is, however, no exact type of fever curve in this preëruptive period. Since the majority of cases are infected in the later stages, observation of the temperature curve in a suspected case offers the chance to avoid new infection by immediate isolation. When combined with the observation of Koplik spots, Rohmer believes that this behavior of the temperature will afford an exact diagnostic method of measles in the very earliest stages.

(*Ibidem.* February, 1912).

Clinical Observations on the Use of Salvarsan in Syphilitic Infants. C. T. Noeggerath, p. 131.

Noeggerath conducted his investigations with the object of determining the action of salvarsan in syphilitic infants. His material consisted of 28 cases. Of these, 15 were rejected because of unsatisfactory physical condition. The clinical manifestations were multiple. For about nine months he employed injections of a neutral suspension into the buttocks. Because of the disagreeable symptoms connected with this method, he substituted, in February 1911, the intravenous injection. Beginning with an alkaline solution of about 0.1 gm. of salvarsan in 30 cc. of water in the dose of approximately 8 mg. or less per kilogram of body weight, in his last five cases he gave repeated injections in the highly concentrated dose of 0.1 gm. of salvarsan in 2cc. of the solution.

After discussing the various complications and detailing the results obtained, he sums up as follows: The great care which Ehrlich at first demanded in the treatment of infants is justified in only a small degree. Nevertheless, if the infant is not in good physical condition it is well either to give mercury or else to begin with very small doses, 3 to 5 mg. per kilogram of body weight. 2. Infants which are septic should not, for the time being at least, be given salvarsan. 3. The intravenous injections offered fewer later dangers. The *dosis efficax*

minima he designates as 2 mg. per kilogram of body weight. The dose, however, should be raised as high and the injection given as often as possible, so that the dose of 0.1 gm. per injection is quickly reached. Undesirable complications have constantly become rarer.

Regarding the activity of the substance in infancy, he says that there is no question as to its rapid, symptomatic influence. As to whether it works more rapidly than mercury he has no doubt. The question of cure he answers in the affirmative, but believes the combination with mercury offers relatively the best outlook.

The future course of the disease in children who have been energetically treated with salvarsan and mercury combined can only be answered years hence. The question as to whether the method of concentrated solutions, increased to large doses and given intravenously, is as effective and harmless as would appear and as to which forms of infantile syphilis offer contraindications to the use of salvarsan, can find their answer only in the future.

Monatsschrift für Kinderheilkunde.

(1912, x, No. 10).

Abstracted by Harvey P. Towle, M.D.

Acute Nephritis and Impetiginous Eczema. R. Halberstadt, p. 569.

This case gives the clinical history of an impetiginous eczema involving various portions of the entire body, in which there developed marked constitutional symptoms. An examination of the urine revealed the presence of acute nephritis. The renal symptoms gradually disappeared only to relapse after an attack of influenza. Two years later, although the heart and kidneys were clinically sound, the eczema had not completely disappeared. Halberstadt believes that there was an ætiological connection between the impetiginous eczema, the hæmorrhagic nephritis with uræmia, and the heart affection.

Vitiligo and Chorea. Konrad Mallinckrodt, p. 572.

The author begins by stating that reports of the sudden change of the color of hair have been received with scepticism. The majority of the cases of loss of pigment of the hair, he states, have been associated with vitiligo. In the literature, the predilection time for the occurrence of this pigment anomaly is usually given as middle age. Most authors say it is excessively rare for it to occur before the tenth year. Mallinckrodt, however, reports a case in a seven-year-old girl, whose disease began in her fifth year, accompanied by the later development of chorea. He believes that in this case there existed some connection between the disappearance of the pigment of the hair and the development of the chorea. He then discusses the ætiology of the two diseases and concludes that both are built upon a nervous foundation, although the exact anatomical seat of the disease in the central nervous system cannot be identified.

British Journal of Children's Diseases.

(Jan., 1912, ix, No. 97).

Abstracted by Harvey P. Towle, M.D.

Purpura in Infective Diarrhœa. H. D. Rolleston and J. B. Molony, p. 1.

The authors report the analysis of 100 cases of infective diarrhœa, 67 of which proved fatal. Purpura occurred in 11 out of the 67 fatal cases. All but two were under 11 months of age.

Whereas in ordinary purpura the extremities are commonly involved, in these cases, occurring in infective diarrhœa, the eruption affected particularly the chest and abdomen. The authors suggest as an explanation of this fact that possibly it was due to the exhausted condition of the circulation and the extremely low blood pressure in the peripheral vessels. As a rule the hæmorrhages were small but occasionally were so closely set as to give the skin a uniformly purple tinge. The average duration of the diarrhœal disease in the cases with purpura was 41 days. In all except one case the duration was more than two weeks. The purpura usually appeared late, on an average about the 34th day; that is, a week before death. They state that it is, therefore, connected with cachexia rather than with acute infection of toxæmia. Their cases did not suggest any close relation between purpura and the œdema which sometimes occurs in children after gastro-enteritis.

As regards the possibility of a hæmic infection as the causal agent, they found but little evidence in support as bacteria were found in the blood in but one case.

Their conclusions are, first, that symptomatic purpura in infective diarrhœa occurs chiefly on the abdomen and chest, in infants under the age of one year. Second, it is usually a terminal phenomenon in prolonged cases. Third, the prognosis in these cases is extremely grave.

Mortality and Morbidity in Hereditary Syphilis. C. F. Marshall, p. 4.

Syphilitic heredity manifests itself in four ways; in the form of polymortality (fœtal, early or late); second, as virulent or active heredo-syphilis (early or late); third, as dystrophic heredo-syphilis or heredo-parasyphilis; fourth, as syphilitic heredity without symptoms. The differences are according to the origin of the disease. Paternal transmission more often gives rise to late heredo-syphilis and heredo-parasyphilis than to virulent, early heredo-syphilis. Paternal transmission gives rise to more healthy infants. Second, maternal transmission is more apt to give rise to virulent heredo-syphilis and the virulence diminishes more slowly than in the case of paternal syphilis. In a mixed transmission, polymortality is more frequent and prolonged, virulent symptoms generally more severe and heredo-parasyphilis more common than in pure maternal transmission. The more recent the disease in the parent or parents the more likely are the manifestations in the offspring to be virulent.

The first born generally suffer from virulent heredo-syphilis, later children from late heredo-syphilis or parasyphilis. Transmission of the disease varies in intensity and nature in different pregnancies. Healthy and diseased children sometimes alternate. The explanation of the greater virulence in cases of maternal origin is given as the more recent maternal infection.

As to the effects of treatment, most cases of active heredo-syphilis, both early and late, can be cured by mercurial treatment, but this treatment should be prolonged for at least two years. On the other hand, the dystrophies of heredo-syphilis or parasyphilitic phenomena (including many incurable nervous and mental affections) are not influenced by mercurial treatment. Hochsinger concluded that when the parents have been submitted to intensive treatment, relapses are rare during the first year of life. Marshall believes that much positive harm has been done by "606" directly and indirectly—in the first instance because it does not cure and yet has created a sense of false security from a single injection, and in the second instance because of the ensuing abandonment of prolonged mercurial treatment.

American Journal of the Medical Sciences.

(March, 1912, cxliii, No. 3).

Abstracted by Harvey P. Towle, M.D.

Pellagra in Its Relation to Neurology and Psychiatry. Beverly R. Tucker, p. 385.

This article deals especially with the neurological aspect of pellagra, but also gives a brief review of the history of the disease and of the gastro-intestinal and cutaneous symptoms.

In addition to the usual three symptomatic complexes, Tucker describes a fourth, the gastro-intestinal or alimentary, which, he declares, is the first to show symptoms of the disease. He states that at least eighty per cent. of the cases give at least a history of diarrhœa or nausea and vomiting before cutaneous symptoms develop. His description of the cutaneous lesions agrees with those of other writers. He reviews very briefly the various theories of ætiology but accepts none. He concurs in the opinion expressed by the majority that while the sun's rays may aggravate the skin lesions, they seem to have no other relation to the disease.

The rest of the paper refers chiefly to the nervous and mental symptoms.

As to treatment, he says that, with the exception of urotropin, he has found no drug which seems to influence the course of the disease. He has, however, used urotropin in twenty or more cases with good effect. All who lived long enough to take it in doses of ten grains four times a day for ten days either recovered from the attack or, as in two other cases, recovered from all but their mental symptoms.

The Relationship between Erythema Nodosum and Tuberculosis with the Report of a Case. F. S. Meara and Malcolm Goodridge, p. 393.

The case reported was that of an Italian woman, aged 25 years. Two weeks before admission she developed, upon the cheeks and limbs, an eruption which was diagnosed as erythema multiforme. Constitutional symptoms were quite marked, with increase of temperature and rise of pulse. Associated with this eruption were several raised, red, sharply circumscribed nodules which were diagnosed as erythema nodosum. The patient continued to run an intermittent temperature, varying between 99° and 101°. About one month after admission, she developed persistent nausea and vomiting, and became drowsy and apathetic. Following this, one week later, there was slight cough and the base of the right lung was found to be involved. The patient's condition changed rapidly. There developed extreme restlessness with retraction of the head and rigidity of the neck with symptoms of rapid involvement of the meninges of the brain and cord. On spinal puncture, tubercle bacilli were demonstrated in the fluid. Death occurred about 8 weeks after admission.

Journal of Tropical Medicine and Hygiene.

(Jan. 1912, xv, No. 1).

Abstracted by Harvey P. Towle, M.D.

An Imported Indian Case of Oriental Sore in West Africa. A. Hutton, p. 9.

This case of Oriental sore occurred in a lieutenant of the British Army, who had previously served in India at Quetta and at Poona. Five months after he

went to England on leave, a lesion developed on the left wrist. From England he went to West Africa, whence the case was reported. Smears from the lesion showed numbers of the parasite Leishmania tropica. It was established that the incubation period must have been eleven months.

Thrombo-angiitis Obliterans: A Clinical and Pathological Study. T. Homer Coffen and Charles Gordon Heyd, p. 402.

In 1908, Buerger advanced a new theory to the effect that pre-senile spontaneous gangræne, or so-called juvenile gangræne, differed from the senile form in that it was not a manifestation of an arteriosclerotic process, but was due to the primary formation of obturating thrombi in the arteries and veins. He gave to this process the name of "thrombo-angiitis obliterans." Coffen and Heyd showed that the red thrombus is the precursor of the condition, that the process does not extend from above but from below upward and that the lesion may occur in vessels devoid of endarteritis.

The writers state that, according to Buerger, pre-senile spontaneous gangræne is a distinct clinical and pathological entity, characterized by thrombotic occlusion of arteries alone or of arteries and veins; giving subjective manifestations, chief among which are pain and the peculiar symptom of intermittent claudication; and presenting objective phenomena, the most important of which are erythromelia, with marked blanching in the elevated position. There occur positive evidences of arterial occlusion in the form of pulseless vessels (popliteal, anterior and posterior, tibial, dorsalis pedis, etc.), trophic disturbances of moderate extent and of even grave consequences, often terminating in gangræne of one or both lower extremities. Owing to the variation from this type the condition is frequently overlooked.

The authors then report a case manifesting the symptoms of this affection, first of erythromelia and later of gangræne of the extremity necessitating amputation.

They conclude that the type of gangræne here presented occurs in non-luetic, young people, invariably men, with a low blood pressure and before the age of marked angiosclerotic changes. In spite of the low blood pressure, they deem it extremely probable that there is no marked sclerosis present in these cases. Histologically, they found neuritis and atrophy of the muscles in the affected area. Here and there in the sections, they found characteristics of arteriosclerosis. They also found a proliferative process in the intima together with other changes in the other coats of the vessels, all leading to thrombus formations. Nevertheless, Coffen and Heyd consider it an open question as to whether the thrombosis is the primary change or whether the condition is a combined arteriosclerosis and thrombosis or whether the condition is primarily due to neuritis.

Journal of Experimental Medicine.

(Jan. 1912, xv, No. 1).

Abstracted by Harvey P. Towle, M.D.

The Direct Cultivation of Treponema Pallidum Pathogenic for the Monkey. Hideyo Noguchi, p. 90.

Noguchi, working with four strains of the treponema pallidum, succeeded in cultivating the organism from three, and in inoculating monkeys from the cultures. The three successful cultures of the pallidum were derived from as many different cases of human syphilis and were inoculated into two species of lower monkeys. The inoculations were made by rubbing ten-day-old pure

cultures into the scarified surfaces of the skin over the eyebrows and also to the scarified prepuce or scrotum or labia.

In cultivating the treponema pallidum he found two conditions to be of importance; first, the maintenance of strict anærobiosis and second, the property possessed by the pallidum of migrating in the solid medium in which they are multiplying.

Noguchi used his culture medium in the shape of a solid cylinder, consisting of two parts of two per cent. slightly alkaline agar and one part of ascitic or hydrocele fluid, at the bottom of which had been placed a fragment of sterile tissue, such as a rabbit kidney or testicle. After solidification a layer of sterile paraffin oil, three centimetres deep, was added to prevent evaporation. The material was obtained from such lesions as the chancre, a condyloma or a skin papule. The pieces of tissue were immersed immediately in sterile salt solution containing one per cent. sodium citrate. The fragments were then cut into small bits, of which one was emulsified in a mortar with the citrate solution. The others were inserted directly into the tubes of the culture medium, after having been previously examined under the dark-field microscope to demonstrate the presence of the pallidum. The tubes were incubated at 37° C., for two or three weeks. A dense, opaque growth developed along the stab canal and the wall of the tube. Large portions of the pallidum were often seen inbedded in the agar and immotile, but when the organisms were present in a space free from agar they showed active motility.

Conclusions: The first culture is almost always contaminated by bacteria. To obtain a pure culture a series of reinoculations is usually required, always examining the material by the dark-field before making the reinoculation. The pure culture does not produce putrefactive odors.

In connection with the preparation of the culture medium Noguchi found that not all specimens of ascitic fluid were suitable. When a valuable specimen was obtained it was preserved in a sterile condition for future use. The first indications of growth appear in about 72 hours and increase gradually for two or three weeks, when the growth is at its height. The pure cultures grow only in the presence of sterile tissue under anærobic conditions and when pure do not produce putrefactive odors. In cultures, the treponema pallidum multiply by longitudinal division, usually symmetrically, but occasionally asymmetrically. During the course of the positive inoculation of the monkey the blood developed the property of giving a positive Wassermann reaction.

British Journal of Dermatology.

(Dec. 1911, xxiii, No. 12).
Abstracted by Frank Crozer Knowles, M.D.

Eczematoid Ringworm of the Extremities and the Groin. Arthur Whitfield, p. 375.

Attention was first called to eczematoid ringworm by Hebra in the year 1860, but Sir Malcolm Morris mentioned that the nature of the disease was already known to Devergie. In 1892 Djelaleddin-Mouktar drew attention to the presence of a fungus in disease of the feet but presumed that the organism had invaded a case of chronic eczema. Whitfield first published in 1908 a series of cases of ringworm of the hands and the feet in which the clinical appearance did not correspond to the well-known forms of tinea circinata. A fungus cause was found in each of these cases. Sabouraud published an elaborate article on this subject in 1910, recording seven cases. The latter obtained the organism in pure

culture and found that it was the same as commonly caused eczema marginatum and so-called "dhobie itch". He named the fungus Epidermophyton inguinale. Castellani divides the epidermophyta into three types: Epidermophyton cruris (Castellani, 1905), synonyms, Epidermophyton inguinale (Sabouraud, 1907), Trichophyton cruris (Castellani, 1905), Trichophyton Castellani (Brook, 1908); Epidermophyton Perneti (Castellani, 1907); Epidermophyton rubrum (Castellani, 1910). Whitfield divides eczematoid ringworm into three classes: the acute vesico-bullous; the chronic intertrigenous of the toes; and the chronic hyperkeratotic of the palms and the soles. The acute vesico-bullous is practically undiagnosable clinically; it develops acutely in from twenty-four to forty-eight hours and has all of the characteristics of acute vesicular eczema or dysidrosis. Some of the cases are the result of the infection of the epidermis by the epidermophyton, others are apparently infections by an ectothrix and an organism, not of the ringworm type, may be causal in some individuals. The intertrigenous type is always secondary to a more or less acute attack, and is extremely chronic and difficult to cure. The toes are the usual site of attack, the toe-nails are occasionally involved. In the hyperkeratotic type the whole of the soles, and occasionally, also, the palms are attacked by an enormous and irregular massing of the overgrown horny layer. The latter two varieties may last over a period of some years. The most efficacious treatment consists in the application of an ointment of benzoic and salicylic acids, made up in soft paraffin and cocoanut oil, or of chrysarobin made up in equal parts of chloroform, alcohol and acetone.

Eczematoid Ringworm of the Extremities and the Groin. R. Sabouraud, p. 384.

Sabouraud divides his subject into five groups: (1) The first devoted to the eczema marginatum of Hebra, caused by the Epidermophyton inguinale (Sabouraud). (2) The analogous "epidermophytiè" produced by the Epidermophyton rubrum of Castellani (Epidermophyton purpureum of Bang). (3) The third includes the ringworms of the thickened horny epidermis, clinically studied by Djelaleddin-Mouktar in 1892. (4) The fourth comprises the ringworm of the back of the hands and the feet, usually caused by the pyogenic trichophytons. (5) In this section are differentiated from the preceding types the ringwormlike eczemas in nummular placques when it occurs on the extremities—a common situation.

Eczema marginatum is not trichophytic, its parasite does not attack the hair; it requires the bottom of a flexure for its inoculation. This parasite differs botanically from all of the ringworm fungi. Eczema marginatum is frequently found in the flexures of the toes. Eight out of ten of the so-called intertrigo of the toes are caused by the Epidermophyton inguinale. Eczema marginatum of the hands is rare.

Trichophytic erythema may involve large areas of the body. The lesions may occur anywhere upon the body, particularly on the trunk, the buttocks and the thighs. Eczema marginatum is an eruption of the flexures; the trichophytic eruption is one of the flat surfaces. This type of eruption is caused by the Trichophyton rubrum described by Castellani, which is identical with the Epidermophyton purpureum described by Bang.

The palmar and the plantar ringworms, commonly mistaken for eczema, were described by Djelaleddin-Mouktar in 1892; who first showed their trichophytic nature. The fungus parasites which usually cause these eruptions are the Trichophyton violaceum and the Trichophyton acuminatum, and occasionally the microsporon Audouinii. Ringworm on the dorsal surfaces of the hands is common. It is usually of the suppurating type caused by the pyogenic Trichophyton microides group, Trichophyton gypseum and the Trichophyton niveum.

(*Ibidem.* Jan. 1912, xxiv, No. 1).

Trichophyton Rosaceum. Robert A. Bolam, p. 1.

According to Sabouraud this form of fungus infection is rare in man as he has seen during seven years but seven instances out of eight hundred cultures. Favera's statistics show the occurrence in Parma of this fungus in about four per cent. of the cases. Sabouraud described the lesions produced by this organism as epidermic and follicular, dry in character, with usually no trace of an inflammatory process. He has found the disease in only isolated instances, no more than one case being noted in a family. During the past fifteen months Bolam has found the fungus in fifteen instances, thus proving that the Trichophyton rosaceum is relatively a common cause of lesions of the beard and the glabrous skin in the North of England. The nails and scalp hairs were not attacked by this fungus in this series of cases. Favera, however, has recorded such infection. Colcott Fox has found that the common type of parasite in the beard cases, in London, is the Trichophyton violaceum. Bolam found that out of twenty-three cases of ringworm of the beard, twelve were caused by the rosaceum type of fungus and only six by the violaceum. The author discovered, contrary to the findings of Sabouraud, that all types of reaction to the Trichophyton rosaceum fungus may be present; dry scaly patches, like the chronic coccogenic sycosis, and even the extremely inflammatory lesions of the kerion-like type. Several individuals were attacked in different families. Sabouraud's medium was used in cultivating the fungus.

The Value of Much's Granules and the Antiformin Method in Determining the Ætiology of the So-Called Tuberculides, with Especial Reference to Lupus Vulgaris. D. Friedlander, p. 13.

It has been practically impossible to find the tubercle bacillus in scrapings or sections from the so-called tuberculides, therefore the idea was conceived that these lesions were not tubercular *per se,* but the result of toxines originating in a tuberculous lesion situated elsewhere in the body. The introduction of antiformin by Uhlenrath has greatly lessened the difficulty of finding the tubercle bacillus. According to Much, there is a granular form of the tubercle bacillus that is not demonstrable with the Ziehl stain. This granular form is virulent and may be the only obtainable factor in a tuberculous organ or lesion. According to Much, there is not only an acid-fast form of the tubercle bacillus, but also a non-acid-fast form which may appear as solid bacilli, rows of granules or isolated granules. The organism of Much is, as far as is known, confined to tuberculous conditions. It also has the power of resisting antiformin; a peculiarity only shared by the acid-fast bacilli. Much's organism is present one and one-half to two times as often as the acid-fast form. The organisms of Much appear as sharply defined granules, blue in color, surrounded by a fine red border, containing several granules. The author carried out investigations upon the following tissues; known tuberculous tissue of the lung, the liver and the kidney; lupus vulgaris; tuberculosis verrucosa; lupus erythematosus; normal tissue, the desire being, in so far as possible, to throw some light on the ætiology of lupus erythematosus. The known tuberculous tissue showed Ziehl-staining tubercle bacilli in both the sections and the antiformin-treated smears, and likewise Gram-positive organisms. The lupus vulgaris tissue showed only one Ziehl-staining tubercle bacillus, in over sixty sections from two cases; while Much's organisms were found in approximately every fourth or fifth section. In the precipitate from antiformin-treated tissue, both varieties were found fairly frequently. In tuberculosis verrucosa neither Ziehl nor Gram-staining tubercle

bacilli were found in the sections. Antiformin treatment of the tissue showed a few of each organism. Tissue from the discoid type of lupus erythematosus was used and in an examination of over sixty sections Ziehl and Gram-staining bacilli were absent. Organisms were, however, found in anti-formin smears which had all of the characteristics of Ziehl-staining tubercle bacilli, and the granulated bacilli of Much, the latter in much greater number. The author suggests that possibly there may be two conditions under the clinical picture described as lupus erythematosus, one tuberculous in ætiology and the other non-tuberculous.

(*Ibidem.* Feb. 1912, xxiv, No. 2).

Telangiectases in Children, in Association with Wasting and Protracted Diarrhœa. E. Greaves Fearnsides, p. 35.

The author, after an extensive search through the literature, has failed to find any account of an associated telangiectasis, erythema and purpura in children, accompanied with wasting and protracted diarrhœa. Six cases of this character are recorded in the article, five in girls and the sixth in a boy. The rashes were of three types; an erythema, a telangiectasis and a purpura. In the areas showing the dilated blood vessels the skin was more scaly than elsewhere. Many of the affected regions showed slight elevation of the patches and the borders were distinctly palpable. Microscopic examination exhibited œdema and slight extravasation, but no cellular infiltration of the raised areas. The erythema was present in all six cases; the telangiectasis in five; the purpura in two. Œdema, wasting and diarrhœa were noted in all of the cases. Two of the little patients died.

Annales de dermatologie et de syphiligraphie.

(Jan. 1912, 5th Series, iii, No. 2).

Abstracted by Frank Crozer Knowles, M.D.

Critical Study on Polymorphous Erythema and Polymorphous Dermatitis. L. Brocq, p. 1.

Brocq, in a thirty-page article, endeavors to simplify and clarify the complicated subject of the classification of the bullous diseases. The French dermatologists from 1880 to 1890, reported all of the vesicobullous eruptions in which an erythematous element was observed, in which the bulla was formed at the site of the erythematous plaque, as érythemès polymorphes. Erythemè polymorphe remains established by the genius of Hebra. True pemphigus has the objective characteristic of the bulla as the elementary lesion. Between these two conditions there exists an enormous group of polymorphic conditions, in a marked degree different and capricious in their course, which have been described under the name of érythemès polymorphes vesiculo-bulleux, by Duhring under the title of dermatitis herpetiformis, by the French under that of dermatites polymorphes douloureuses, and by the school of Vienna under chronic pemphigus. They offer two major characteristics; the vesicles and the bullæ, at times, being formed together on the sound skin, at others the erythematous element preexisting; second, the eruption seated at any point on the skin surface, and not alone on the dorsal surface of the hands, the wrists, the elbows, the knees and the neck, as in the true erythema multiforme of Hebra. Brocq has traced the history of these bullous outbreaks, with the classification and the grouping employed in the past and the titles and synonyms used at the present time.

The Cryptogamic Parasites of the Erythemato-squamous Dermatoses of the Pityriasis Rosea Type of Gibert. Du Bois, p. 33.

The paper deals with eruptions of an erythemato-squamous type; the pityriasis rosea of Gibert, and with two others of a rarer variety, parakératose psoriasiforme of the pityriasis rosea type of Gibert, well differentiated from the other parakeratoses by the manner of evolution, and a rare form, corresponding to the variety described by Vidal, under the name pityriasis circiné et marginé. These eruptions are differentiated from the herpes tonsurans maculata of the Vienna school, the eczema marginatum of Hebra, and the others of the erythematosquamous type.

Three cases are described in the paper, the first giving a clear picture of pityriasis rosea; one spot appearing five days before the others, the lesions were small, covering the arms and the trunk, with a rose-colored border, a yellowish centre and a slight scale. The eruption lasted for about five weeks. In the second case, the eruption all appeared at the same time; there was no one preliminary patch. The spots were much larger than in the first case, some a palm in size, more of a yellowish than a pink color, the border more sharply marginated, the centre less squamous than the border, fewer spots, scattered over the trunk, slow in evolution. The itching was only slight in these cases. In the third case the eruption appeared rapidly on the trunk and the limbs and consisted of small plaques, very numerous, of a brick-red color and covered with furfuraceous scales. The areas were irregularly round or oval and were chiefly noted on the trunk, and next most frequently upon the thighs. A violent pruritus accompanied the outbreak. The eruption became confluent and was followed by a scarlatiniform desquamation of the entire integument; the head, the hands and the feet being exempt. This type has been described by Brocq under the heading parakératoses psoriasiformes disséminées, of the type pityriasis rosea of Gibert.

The author made a systematic study of the scales of these three eruptions and found, in each, evidence of spores of the cryptogamic agent. Because of these findings the author suggests that these three eruptions should be placed in the one group. The parasite is represented by a mass of round spores of variable size, and no mycelia, of 5 microns in size and the smallest difficult to measure. The spores were found within the follicular and the glandular orifices. Inoculation and cultural experiments were both negative. The spore arrangement suggested the appearance of the fungus found in pityriasis versicolor. The present fungus resembled markedly the microsporon described by Vidal as the cause of pityriasis circiné. As this organism is probably the ætiological agent of all pityriasis rosea eruptions, therefore the name is proposed in honor of Vidal—"Microsporon dispar."

Journal of the American Medical Association.

(Jan. 6, 1912, lviii, No. 1).

Abstracted by Frank E. Simpson, M.D.

The Occurrence of a Positive Wassermann Reaction in Two Cases of Non-Specific Tumor of the Central Nervous System. Leo Newmark, p. 11.

The author reports two cases of tumor with positive Wassermann reaction.

In the first case, a woman of 53, who had a negative syphilitic history so far as could be learned, there had been word deafness and paraphasia of about 10 days' duration. The Wassermann reaction was positive and temporary im-

provement occurred under anti-syphilitic treatment. A tumor of the left breast was then discovered, but the cerebral symptoms increased and death took place about three months from the onset of cerebral symptoms. Autopsy disclosed carcinoma of the breast and glio-sarcoma of the brain. The cerebro-spinal fluid obtained at autopsy gave a positive Wassermann reaction.

In the second case, a woman of 45 with doubtful syphilitic history, there had gradually developed symptoms of compression of the spinal cord. The Wassermann reaction in the blood serum was positive. The patient was subjected to vigorous anti-syphilitic treatment which included mercurial inunctions, injections, salvarsan (0.6 gm.) subcutaneously and later (0.3 gm.) intravenously, together with iodides.

In spite of this treatment the Wassermann reaction remained positive nine months later in the cerebro-spinal fluid. About one month after the last positive Wassermann, laminectomy was done and an intra-dural psammoma was removed. Cerebro-spinal fluid removed at the operation gave a negative Wassermann and Noguchi. Eighteen days later blood serum was negative to the Wassermann although the author took the precaution to have the examined serum divided into four parts, each being examined by a different laboratory.

The author pertinently asks—is there a causal relation between the tumors and the Wassermann reaction or does the positive Wassermann indicate occult syphilis?

Cacodylate of Soda in the Treatment of Recurring Erythema Multiforme (Erythema Perstans). William Cuthbertson, p. 30.

The author reports a case of erythema multiforme with which the patient, a female, aged 27, had been afflicted since childhood. The eruption consisted of papules, vesicles and bullæ, which broke down and resulted in large, moist ulcerated patches which finally dried up, leaving a brown stain. It was distributed in order of predilection on the arms and legs, buttocks and trunk. It was accompanied by intense itching and burning, disturbing the sleep and imparing the general health. It was especially marked in August and September and almost disappeared in winter. An injection of cacodylate of soda (¾ gr.) was given intramuscularly and repeated in two days. Treatment was kept up during August and September twice a week except when the patient missed the treatment, at which times a recrudescence of the eruption took place. The patient was free of the eruption, October 30th, and the author believes the success of the cacodylate was due to its being absorbed directly into the blood as Fowler's solution had previously failed to control the eruption.

(*Ibidem.* Jan. 13, lviii, No. 2).

An Apparatus for the Intravenous Injection of Salvarsan with Salt Solution Preceding and Following. W. B. Dakin, p. 94.

The author describes a somewhat complicated apparatus consisting of two glass jars containing respectively normal salt solution and salvarsan solution, connected by glass tubing. By means of an atomizer bulb, air is forced into the jar containing salt solution which is thus made to flow into the needle previously introduced into the patient's vein. After 20 to 30 cc. of salt solution are introduced the stop-cocks are changed and the salvarsan solution is injected, also by air pressure. This is again followed by 20 to 30 cc. of salt solution.

The main advantages claimed are: (1.) Salvarsan solution is not injected until the needle is positively within the vein. (2.) No salvarsan solution escapes into the tissues on withdrawal of the needle. (3.) No air or foreign particles can enter the vein. (4.) No assistants are necessary.

A cut of the apparatus is appended.

A Case of Phenol (Carbolic Acid) Gangræne. F. Buckmaster, p. 102.

Buckmaster reports a case of slight trauma to the anterior surface of the right leg below the knee which was treated with ordinary phenolized petrolatum. This resulted in a gangrænous ulcer the size of a dollar, which required five weeks to heal. Four weeks later the site of the old ulcer became numb, slightly blistered, and then broke down leaving a sore as large as a dollar in which a malignant tendency was suspected. X-rays were then used and at the end of two weeks the sore was healed.

(*Ibidem.* Feb. 3, 1912, lviii, No. 5).

Possible Interrelationship of Acanthoma Adenoides Cysticum (Multiple Benign Cystic Epithelioma) and Syringocystadenoma (Lymphangioma Tuberosum Multiplex). Richard L. Sutton and Charles C. Dennie, p. 333.

The authors report two interesting cases of tumors of the skin. The first was a case diagnosed clinically as multiple benign cystic epithelioma. The patient was a man aged 70 and the disease had been present since his earliest recollection. The Wassermann and tuberculin reactions were negative. Irregularly scattered over the scalp, temples, neck and chest, were wheat-grain to split-pea sized, pink nodules. Two of the nodules were excised and histological studies disclosed the usual findings of benign cystic epithelioma.

The second case, diagnosed clinically as lymphangioma tuberosum multiplex was a female, aged 39. The Wassermann reaction was negative, but there was a slight reaction to tuberculin. On the left side of the forehead were twenty soft, flattened, pinkish white, smooth-topped, oval papules, somewhat larger than the head of an ordinary pin. The group formed a rectangular patch 4 by 6 cm. The lesions in places coalesced, the resulting tumor being irregularly fusiform in shape. Over the right temple was a similar but smaller patch of lesions. On the right side of the chest near the anterior border of the axilla, was a third group of tumors, their arrangement appearing to bear a relation to the lines of cleavage.

Upon the administration of .01 cgm. of pilocarpine hydrochloride, drops of moisture appeared on the top of some but not all of the lesions. Under the influence of the drug the tumors perceptibly increased in size temporarily.

Growths from the forehead and axilla were excised as well as some macroscopically normal skin from the sides of the trunk for histological study. The following findings refer to the nodules:

Epidermis, Stratum corneum—unchanged.

Stratum graunlosum. Thinned and nearly devoid of granules.

Rete. Regularly arranged basal layer but composed of swollen œdematous cells.

Corium. Papillæ flattened or absent—cellular infiltration in upper corium. Blood vessels normal but fewer in number.

Hair follicles, sebaceous and coil glands were normal.

Scattered throughout the cutis, from just below the basal layer of the epidermis to the stratum of subcutaneous fat, were large numbers of round or oval masses of epithelium, and epithelial-lined tubules.

In many of the cysts and tubular strands, a double row of epithelial cells was present, an outer row of flat and an inner row of cubical cells, the same arrangement which obtains in the cellular lining of the sudoriparous tubules. This resemblance between the epithelial strands, nests and cysts, and the tubules of normal coil glands, the authors regard as the most important evidence in support of the sweat gland theory of its histogenesis.

The authors' conclusions are that the tumors in both cases are benign cystic epitheliomata in a strict pathological sense.

Lymphangioma tuberosum multiplex (syringocystoma) is a non-malignant, cystic, neoplasm derived from misplaced embryonal coil gland elements. It is a true adenoma, as the cells retain their sweat-secreting function. There are sufficient clinical and histological differences to separate the two types of cases nosologically.

(*Ibidem.* Feb. 17, 1912, lviii, No. 7).

Early Nerve Involvement in Syphilis. J. Graham Harkness, p. 478.

Harkness reports the case of a man who developed a hard chancre which was treated with salvarsan and a month's course of mercury. The sore healed in two weeks. Five months from the appearance of the sore he came under the author's care with secondary eruption, falling hair and mucous patches. The lower extremities were paralyzed and flaccid. There was some muscular atrophy with abolition of the plantar and patellar reflexes. Pain and heat sensations were reduced up to the middle of both thighs. The same areas were hyperesthetic to cold. In the upper extremities coördination and muscular power were good. The pupils were somewhat dilated and sluggish.

Treatment was instituted with mercury and iodide and three months later he was apparently well.

The early appearance of the nerve symptoms (five months from the chancre), the wide extent of the involvement of the nervous system and the rapid and complete recovery were the interesting features.

(*Ibidem.* March 2, 1912, lviii, No. 9).

The Present Status of Salvarsan Therapy in Syphilis. Henry J. Nichols, p. 603.

The author states that the final position of salvarsan is not yet fixed because of the chronic nature of syphilis. He adopts the following criterion of the cure of lues: One year without treatment, without symptoms and with several negative serum reactions. This is based on the statement that few persons can harbour living spirochætæ for a year without clinical or serum symptoms. A short history of the use of salvarsan is given, beginning with the issuance of the drug by Ehrlich early in 1910 and the first use intramuscularly of 0.3 to 0.8 gm. in alkaline solution. Wechselmann's method (the subcutaneous injection of a neutral suspension) which came into use in July 1910, is pronounced a fiasco on account of encystments and necrosis of the tissues.

Ehrlich's change of attitude at the end of 1910, in which he advised the intravenous method in repeated small doses (if necessary in combination with mercury) is stated to have been due to several causes. These were first, the painfulness, necrosis and encystments, incident to the subcutaneous method, and, moreover, some danger of an explosive effect if so large an amount of arsenic should be decomposed in the tissues; second, the frequency of the relapses; third, the discovery in Ehrlich's laboratory that the trypanosomes do not become resistant to repeated doses of arsenic preparations.

The author discusses the question of the *therapia sterilisans magna*— the cure of syphilis by a single injection. This is theoretically sound, is possible in rabbits and has been achieved in some human cases as shown by their reinfection. The author quotes John who has collected some 119 cases of reinfection which must be regarded as previously cured because permanent immunity to syphilis does not exist. He concludes that the *therapia sterilisans magna* can be realized

with the intramuscular method in the primary stage, that it is possible but not probable in the secondary and tertiary stages, but that it remains an ideal toward which to work.

The question of repeated injections of "606" is now taken up. The author's experience would indicate that at least two intravenous injections a week apart must be given to equal one intramuscular injection. It was at one time thought that intravenous injections could be repeated until a cure was brought about, but an arrestation of this line of experimentation was made necessary by the unexpected development of "neuro-récidives" which have been explosive in character. Here is pointed out what is believed a radical difference between the action of "606" and mercury. With "606" the great bulk of spirochætæ are killed at one blow. Any that remain are too few to stimulate the resistance of the tissues. Later they multiply and again suddenly flood the tissues and if the brunt of the blow falls on the nervous system, convulsions, deafness and blindness may follow.

With mercury, the spirochætæ are not killed en masse; some are left which stimulate the resistance of the tissues and the patient goes through the various stages of the disease much as if untreated although in a modified manner.

From these considerations Ehrlich now advises that mercury be used as an adjunct to reduce to a minimum the relapses, especially the "neuro-récidives." The best form of combination treatment is not yet determined, but the principles are pretty definitely established.

The therapy of syphilis is thus summed up: Primary stage—Diagnose the disease as soon as possible, by discovering the spirochætæ either by the dark-field or by the Giemsa method. If the position of the chancre permits, excise it. Give an intravenous injection of salvarsan of from 0.4 to 0.6 gm. and follow this by one month's treatment with mercury by inunction or injection. Complete the treatment by a second intravenous injection of salvarsan. If a positive serum reaction is present from the start a second month's treatment with mercury should follow the second injection.

The secondary and tertiary stages: One or more intravenous injections with a week's interval should be given until the symptoms are under control. At the same time give an intensive treatment with mercury for from one month to six weeks. Then the entire procedure is to be repeated, the amount of salvarsan to be given being based on the state of the serum reaction.

A third course may be added in cases known to be specially resistant, as bone and joint syphilis. Reports now indicate that the cure of syphilis can be made a matter of months instead of years. In the author's experience there have been no bad effects which could reasonably be attributed to salvarsan.

Subcutaneous Injections of Salvarsan in General Paresis. E. H. Trowbridge, p. 609.

The author reports a series of eight cases of general paresis presenting as nearly as possible the earliest symptoms of the disease, which were treated with subcutaneous injections of salvarsan. The details of each case are given with some minuteness.

He concludes that if this small number of cases can be taken as a criterion it is better to dispense with salvarsan in the treatment of general paresis. The remedy seemed to have a tendency to aggravate the symptoms and hasten the ultimate end. As the author sees it, prophylaxis is the only way to stamp out syphilis and general paresis and he believes the law should require every case of active syphilis to be treated by mercury or salvarsan until the Wassermann becomes negative and remains so for at least one year.

(*Ibidem.* March 9, 1912, No. 10).

Clinical Aspects of Syphilis of the Liver. V. L. Shrager, p. 681.

Shrager writes of the pathology, differential diagnosis and treatment of syphilis of the liver and gives a short historical note relative to the recognition of luetic hepatitis. He comments upon eleven different diseases which may be confused with syphilis of the liver and reports a case which he himself had under observation for one and a half years. In this case the symptoms led him to suspect cholecystitis, but the operation disclosed multiple gummata of the liver. Prompt recovery ensued upon administering mixed treatment.

Localization of the Spirochæta Pallida in the Heart Muscle in Congenital Syphilis. Alfred Scott Warthin and E. J. Snyder, p. 689.

Warthin and Snyder report the results of autopsies in two cases of infants aged eleven weeks and eight days respectively. The first infant showed gonococcal ophthalmia and macroscopic evidences of syphilis. Microscopically, the heart muscle revealed the histological changes of lues and enormous numbers of spirochætæ. The other organs were free of microscopic signs of lues. In the second case, there was no macroscopic evidence of lues but in the heart muscle were found syphilitic myocarditis and spirochætæ.

These cases are important as illustrating the unique way in which the infection may concentrate in a single organ and emphasizes Warthin's view that the heart muscle is a favorite site of localization of the spirochætæ.

A Case of Leprosy in Indiana. Nelson D. Brayton, p. 690.

Brayton reports a case of leprosy occurring in a colored woman, aged 60 who had lived in Tennessee, and who had never been but a short distance from her birthplace in that State. The clinical appearances were those of a marked nodular leprosy of acute type. The bacillus of leprosy was demonstrated in excised nodules. Interest in the case lies in the unknown manner of infection since she had never visited the coast regions and her family was found to be free of the disease. A photograph of the case is appended.

A Contribution to the Study of Rat Leprosy. Hans Zinner and Edward G. Carey, p. 692.

It has been hoped that much information might be gained about human leprosy by a study of rat leprosy, as the two diseases are clinically similar and the bacillus of the latter is morphologically indistinguishable from the Hansen bacillus. The chief purpose of the paper is to present experiments on the cultivation of the bacillus of rat leprosy and the observation of bacteria in tissue-plasma. As sources of tissue the authors used small pieces of spleen from rats one week old. The technique of the method is given and in two preparations examined after two weeks' incubation, a marked increase of the rat leprosy bacillus took place intracellularly. It was hoped that the organisms might be gradually accustomed to conditions outside the body and finally be grown on media containing no cells, but so far this has been unsuccessful though further attempts will be made.

(*Ibidem.* March 16, 1912, lviii, No. 11).

Supernumary Axillary Mammary Glands. John D. Cantwell, p. 747.

Cantwell reports the case of a primipara who on the fourth day of the puerperium complained of swelling and pain in each axilla. A tumor in each axilla

was found, one inch distant from the normal breasts, 3 inches in diameter and 1½ inches high, provided with a nipple through which, on application of a breast pump, milk was obtained in four distinct streams. They were beautifully symmetrical. The tumors increased in size until the sixth day of the puerperium and diminished thereafter until, on the fourteenth day, only the areola and nipple remained to indicate their position.

ERRATA.

On page 280, line 14, of the May, 1912, issue, Dr. J. C. White should be substituted for Dr. Charles J. White.

At the end of Drs. Pollitzer and Wile's article, entitled Xanthoma Tuberosum Multiplex, in the May, 1912, issue, page 241, the following note should have appeared: The pathological work was done in the laboratories of the Beth Israel and the Lying-In Hospitals. The authors desire to thank Dr. E. Moschcowitz and Dr. John E. Welch for the many courtesies extended.

THE JOURNAL OF CUTANEOUS DISEASES

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THE THIRTY-SIXTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

(St. Louis, Mo., May 23-24-25, 1912).

PRESIDENTIAL ADDRESS.

A BRIEF HISTORICAL REVIEW OF DERMATOLOGICAL JOURNALISM IN THE UNITED STATES.

By Grover William Wende, M.D., Buffalo.

EXERCISING a prerogative which through your kindness has been vested in me, it becomes my pleasant duty as well as special privilege to bid you welcome to this, the thirty-sixth annual meeting of the American Dermatological Association.

Each new place of meeting furnishes a distinct atmosphere in which the Association works; each a new frame for the ever similar picture. Every member of the American Dermatological Association must feel an added impulse for higher and better effort, because of the occurrence of our present meeting in The Barnard Free Skin and Cancer Hospital, a building furnished with adequate ideal facilities for the care of those afflicted with diseases of the skin and for original research. Every member must be happily moved by the philanthropic atmosphere created by those whose influence and whose gift made it possible to erect an institution that will bring honor to dermatology, and fame to the city of St. Louis.

It occurred to me that it would be of interest at this time, as the Association is now publishing a monthly journal, to review briefly the history of American journalism in dermatology.

The pioneer in this field was Dr. Morris H. Henry, of New York, who in 1870 originated a quarterly journal styled the *American Journal of Syphilography and Dermatology*, devoted to the exposition and study of venereal and cutaneous diseases. The term syphilography in the title was "designed to comprehend not merely syphilis, but all diseases whether general or local, having a venereal origin or lesion." Dr. Henry not only possessed literary ability but was a general surgeon of marked skill. He was born in London, England, July 26, 1835, came to America in 1854, graduated in medicine from the University of Vermont in 1860, served as surgeon in the Federal army and settled in New York in 1864, where he practised his profession until his death on May 19, 1895. He was a man of great versatility and varied activities, but my review of his career will be limited to his contributions to dermatology. He began his medical writing in 1864 and contributed during his life twelve scholarly papers upon venereal and cutaneous diseases, expressing therein advanced ideas which exerted a distinct influence upon the attitude of the medical profession toward dermatology. In 1871 he edited the American publication of the standard work of Dr. Tilbury Fox, on diseases of the skin.

Although the *American Journal of Syphilography and Dermatology* under Dr. Henry lived only five years, it received marked recognition in America and Europe as a standard journal. It was conducted upon a high plane of literary and scientific endeavor, and I can do no better than to quote to you from the presidential address of Dr. Duhring at the third annual meeting of this Association (1879) when he said: "With the year 1870 a new and promising era, full of vitality and spirit, opened upon the dermatology of our country, signalized in the first instance by the appearance of the *American Journal of Syphilography and Dermatology*, under the editorial management of Dr. M. H. Henry, of New York. This publication must always be regarded as an important event in the history of American dermatology, for it was unquestionably the means of calling forth a considerable amount of substantial interest in this branch of medicine, as well as much good work, which without such a stimulus would probably never have been produced." The journal throughout its career was ably conducted by its editor, who, together with his collaborators, obtained for it an honorable position abroad as well as at home. It contained many meritorious original contributions, translations, abstracts, as well as reviews, representing a large amount of faithful work which could not fail

to exert a most salutary effect. During these years American dermatology was born and began to grow; slowly but surely, and vigorously; gaining strength from year to year as new and zealous workers, some of them men of talent, came prominently on the field.

As promptly as the New Year makes entrance upon the heels of the retiring old year, so did a new quarterly arise from the grave of the *American Journal of Syphilography and Dermatology.* The reincarnation took place in October, 1874, under the editorship of Dr. L. Duncan Bulkley, and was named the *Archives of Dermatology.*

American dermatology owes much to the able editor of the *Archives* for preventing what might have been a disastrous gap in the continuity of its literature so magnificently initiated by Dr. Henry. During the eight years of the existence of the *Archives of Dermatology,* Dr. Bulkley never wavered from adherence to the problem set in his first editorial.

The *Archives of Dermatology* ceased to exist with the issue of October 1882, and in his valedictory editorial Dr. Bulkley said: "The recent appearance of a monthly journal of cutaneous and venereal diseases has seemed to offer a fit occasion for its discontinuance. The interests of dermatology will be well served by the new monthly, while the *Index Medicus* furnishes the references to dermatological literature, which occupied much space in the pages of the *Archives.* More than one hundred and sixty original articles have appeared in its pages, besides sixty-four minor contributions in the form of clinical reports, by some ninety different writers, most of whose names are well-known to science. The abstracts from journals have been prepared by thirty-eight different collaborators, all of whom are not only well-known, but men who have attained and held enviable reputations in the various fields of practice included in the *Archives.*"

Without its having shown the slightest sign of decadence, the existence of the quarterly *Archives of Dermatology* ended simultaneously with the appearance of the new monthly, the *Journal of Cutaneous and Venereal Diseases.* Beginning with an issue for October, 1882, and continuing for a period of over three years, this journal was conducted by Dr. Henry G. Piffard and Dr. Prince A. Morrow, as joint editors. With the December, 1885, issue, Dr. Piffard withdrew from The Journal as one of its editors, but his retirement from editorial responsibility only marked a greater activity, for during the remaining twenty-five years of his life as a scientific student and a contributor to the literature of dermatology, he won

a deserved international reputation as a leading American dermatologist.

Dr. Henry Granger Piffard was born in Piffard, N. Y., September 10, 1842, and died in New York City, June 8, 1910. His early education was obtained at a military academy; his degree of Master of Arts, in 1865, from the University of New York; that of Doctor of Medicine, in 1864, from the College of Physicans and Surgeons of New York, and that of Doctor of Common Laws, in 1899, from the University of New York; while he held the chair of Diseases of the Skin in the Medical Department of the University of New York, from 1874 until his death.

Beginning with the issue of January, 1886, the sole editorship of the *Journal of Cutaneous and Venereal Diseases* passed into the capable hands of Dr. Prince A. Morrow, and with the issue of January, 1887, at the completion of the fourth volume, its name was changed to the *Journal of Cutaneous and Genito-Urinary Diseases,* with the view of broadening the scope of the publication so as to embrace the consideration of a large class of genito-urinary diseases of great interest to the general practitioner as well as to the specialist, because not strictly venereal. In addition, the then "recent organization of the Association of Genito-Urinary Surgeons had given a fresh impetus to the study of genito-urinary diseases and syphilis in America, so that the new title was given to bring before the profession the results of the work of this Association." In the first number of Volume VII, January, 1889, the name of Dr. John A. Fordyce appeared as one of the editors, while at the close of Volume IX, with the December, 1891, issue, Dr. Prince A. Morrow, owing to the demand of other professional duties, retired from the arduous position of editor, leaving Dr. John A. Fordyce in charge.

During the next five years Dr. Fordyce is found lone editorial gladiator, successfully combating in the journalistic arena of dermatological, genito-urinary and syphilographic literature, his only guerdon, the sovereignty of American dermatology. But with the issue of January, 1896, the initial number of Volume XIV, the withdrawal of Dr. Fordyce from the active editorial management is presaged by the advent of Dr. James C. Johnston as assistant editor, and with the appearance of the January, 1897, number, Editor Fordyce is succeeded by Editors George Knowles Swinburne and James C. Johnston, the former assuming responsibility over genito-urinary literature, the latter over that of dermatology. Notwithstanding the opportunities afforded the genito-urinary surgeons,

the major part of the contents of THE JOURNAL came under the editorial survey of Dr. Johnston, to whom should be given the credit for the successful conduct of the magazine and especially the improvement in its section on cutaneous diseases.

The new conductors earnestly sought to enlarge the scope and usefulness of THE JOURNAL and to that end added Dr. Boleslaw Lapowski to the editorial staff. During the next five years or until the close of Volume XX, 1902, no change appeared in the name of THE JOURNAL or in its editorial management. By this time the editorial burden had become too great for any one or even two men; the financial needs and losses were equally disheartening, so that some method of continuing publication by other than private ownership became imperative. A syndicate composed exclusively of members of the American Dermatological Association took over THE JOURNAL with the intention of restricting its publication to the consideration of dermatology and syphilology, there being no intimate relation between these subjects and genito-urinary diseases. To this end the name of THE JOURNAL was changed to the *Journal of Cutaneous Diseases Including Syphilis*, and Dr. A. D. Mewborn was appointed acting editor to shortly become editor-in-chief. About this time THE JOURNAL was made the official organ of the American Dermatological Association. Under the careful management of this syndicate and because of its official relation to the American Dermatological Association the quality of THE JOURNAL continued to improve, while numerous expressions of satisfaction and interest confirmed the wisdom of the change of policy. With the beginning of Volume XXVII, January, 1909, Dr. Mewborn retired from the position of editor and was succeeded by Dr. George M. MacKee, the present capable incumbent of that onerous position.

On the seventh of June, 1911, the American Dermatological Association resolved to acquire and conduct the *Journal of Cutaneous Diseases Including Syphilis*.

The syndicate through whose sacrifice the life of THE JOURNAL was maintained for nine years included: Drs. John T. Bowen, Edward B. Bronson, William T. Corlett, Martin F. Engman, John A. Fordyce, Milton B. Hartzell, James Nevins Hyde, George T. Jackson, Francis J. Shepherd, Prince A. Morrow, Henry W. Stelwagon, Grover W. Wende and James C. White. Of this number, Dr. James Nevins Hyde is with us no longer. This accomplished gentleman was a prime mover in effecting the transfer of THE JOURNAL to the small group of members of this Association who fostered it as a

sacred trust for American dermatology. Until his death on September 6, 1910, he was always an active partisan and a loyal supporter of The Journal. During the twenty-eight years preceding his death, Dr. Hyde furnished no less than twenty original articles on dermatological subjects of remarkable erudition, while the greater number of editorials appearing in The Journal were from his forceful pen.

American dermatological journalism has been in continuous existence for forty-two years. At no moment throughout this period has dermatology been without a special literary repository in this country, while for a generation it has had the same magazine as its exponent.

American dermatological journalism has always shown independence of view and encouraged unprejudiced study of the natural history of skin diseases, and to its influence may be credited much of the satisfactory status of dermatology as a department of scientific medicine in America to-day. And further, the responsibility for this influence may be justly placed to the credit of the ten editors of The Journal who have unselfishly, without thought of financial reward, devoted years of their best efforts in the service of The Journal until finally it stands, as it does, as the representative and exponent of the best in American dermatology. To-day eight of those ten editors are living to enjoy the reward of its success and the respect and honor of us all; only two have passed along, both held in esteem in our affectionate memories.

A special journal of high scientific and professional worth nearly always proves a financial burden, rarely earning its cost. Except during a period of three years, upon the authority of the editors, the dermatological journals have not only been non-supporting but have made a constantly increasing demand upon the finances of those responsible for their maintenance. Our respect is due those few who have in the past assumed this responsibility. It now behooves the American Dermatological Association to assume the responsibility with a spirit of determination and fealty that will assure success.

January 1, 1912, marked a new starting point in the history of both American dermatological journalism and the American Dermatological Association, for on that date the Association acquired all the rights and property and began the publication of the *Journal of Cutaneous Diseases Including Syphilis*. This undertaking is in line with the forward movement that is now marking the development of medical journalism in America.

The direct control of the Journal of our Association confers certain benefits, opportunities, and responsibilities to which I wish to direct attention. The Journal now becomes the medium of expression of our activities, our work, our thought, our achievements, collectively and individually as members of this Association. This should lead to unity of feeling and purpose, to more intimate acquaintance and relations, to stimulation of stronger efforts for betterment in all matters affecting our interests—to an influence far more potent to these ends than the insufficient contact afforded by a single annual meeting.

The Journal henceforth should serve as the single medium of publication of the proceedings of our annual meetings, thus replacing entirely the annual volume of Transactions which has grown in size, cost of production, difficulty of preparation, tardiness of publication, and lack of usefulness for the dissemination of our contributions and for general reference. The saving effected by this change will permit the use of our financial resources for urgent needs.

In the matter of policy in conducting The Journal, certain recommendations occur to me, which should prove valuable if supported by the active coöperation of our members. A strong feature of The Journal should be the critical abstracting of the current literature of the world in the field of dermatology, already begun in the issue for April, 1912, wherein the reviewer accepts the credit and responsibility for the quality of his work by signing such abstract. It ought to be possible to organize a competent board of volunteer reviewers or abstracters from our membership, and to assign to each certain journals for review.

It would be an improvement, also, for all editorials to bear the writers' signature or initials. Editorials should be more than perfunctory reviews and should embrace discussions of live problems and note the progress of thought and investigation in all matters relating to the specialty of dermatology. It would seem desirable, also, to secure special editorials on interesting topics by writers outside of the formal editorial staff.

There is no reason why The Journal, conducted as it might be, should not take rank among the world's foremost journals of dermatology, winning fame and respect for our Association and secure financial independence by support from subscribers throughout the world of scientific medicine.

It is desirable to publish The Journal without advertisements of any kind, but such an ideal must remain only a hope for the

future. For the present it is necessary to support THE JOURNAL at least partly out of revenues derived from legitimate advertisements, critically selected with due regard to the self-respect and honor of our Association.

And finally, would it not be an advantage to change the title of THE JOURNAL? The present one, *Journal of Cutaneous Diseases Including Syphilis* is too wordy and clumsy for easy citation, inducing resort to the subterfuge of abbreviation. Surely is it not inappropriate and lacking in dignity for the American Dermatological Association to intimate, by so specifying in the title of its Journal a doubt that syphilis be included within the legitimate scope of its activities? Is the time not now come when dermatology can assume without conspicuous self-assertion or puerile expedient its natural right to the study of syphilis, at least those phases that involve the skin?

Syphilis in its primary, secondary and tertiary stages presents its most striking and characteristic manifestations in manifold lesions of the skin. The most evident diagnostic criteria of the disease are presented by the skin. The generalist will not master the intricacies of the dermatological expressions of syphilis. The final word must be spoken by the dermatologist, trained to careful differentiation of the legion of affections of the skin. And not alone in the diagnosis of syphilis, but also in the proper treatment of it has dermatology special claims. Again, the lesions of the skin, recurring throughout years in ever changing form, teach the dermatologist the lesson rarely fully learned in other branches of medical practice, that syphilis is a disease demanding treatment of peculiar thoroughness and of prolonged duration if its most crippling visceral lesions are to be prevented.

Is not then the time come when our right need no longer be asserted or advertised in the title of our Journal? With regard for our own dignity, with respect toward the past, with confidence in the future, should not the title *Journal of Cutaneous Diseases Including Syphilis*, be changed to *Journal of Cutaneous Diseases* and thereby mark in a fitting manner the assumption by our Association of its new responsibilities in the control of THE JOURNAL?

A CRITICAL STUDY OF THE ORGANISMS CULTIVATED FROM THE LESIONS OF HUMAN LEPROSY, WITH A CONSIDERATION OF THEIR ÆTIOLOGICAL SIGNIFICANCE.*

By Charles W. Duval, M.D., and Creighton Wellman, M.D.,
New Orleans.

A PRELIMINARY study of the different strains of organisms encountered in the course of our investigations upon leprosy from the standpoint of its bacteriology, convinced us that further research on the types of organisms cultivated was necessary, and the present paper is the result of a comparative consideration of the various strains isolated from leprous patients by different workers.

In a recent communication[1] it was announced that apparently more than one strain of acid-fast bacillus could be cultivated by special methods from the lesion of human leprosy and special attention was drawn to a non-chromogenic form which thus far cannot be made to adapt itself to a vegetative habit; and even though many generations removed from the parent stem will not grow on ordinary media, nor indeed upon any but specially prepared nutrients containing broken-down protein.

In the course of the work we have isolated and grown from eight different cases of leprosy, an acid-fast bacillus which is non-chromogenic and cannot be cultivated except in the presence of an amino-acid medium. This strain, which was described somewhat in detail by me in 1910, refuses to become like the chromogenic cultures first by one of us (Duval) in 1910, refuses to become like the chromogenic culture first described by Clegg.

A review of the literature, together with a careful study of the various cultures which have been isolated from lepers by workers in different parts of the world, has convinced us that two and possibly three apparently different organisms have been cultivated from the specific lesions of leprosy, namely: (1) A non-acid-fast diphtheroid (Kedrowski). (2) An acid-fast chromogenic bacillus (Clegg). (3) A permanently acid-fast bacillus (Duval) which *in vitro* maintains the morphology and tinctorial properties of the Hansen bacillus of the tissues, and grows under artificial conditions only in the presence of special nutrients.

* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

[1] *Jour. Amer. Med. Assn.*, 1912, lviii, p. 1427.

Whether the three varieties described represent the same or distinct species, some one of which is the real excitor of leprosy and the others simply extraneous or accidental commensals, is a problem which we have attempted to solve by a comparative study of the lesions induced experimentally, the behavior of the cultures with respect to immune sera and by other well-known methods. Furthermore we have gone back over some of the leprosy cases formerly studied to determine if possible which yield the chromogenic and which the non-chromogenic strains above mentioned, or whether from any case the two types may be cultivated.

In other words we have attempted to answer the following queries:

(1) In what per cent. of the lepers observed in Louisiana and at what stage and type of the disease does the chromogenic strain (Clegg), the non-chromogenic type (Duval), and the diphtheroid type (Kedrowski) exist in the lesions, and do any of the acid-fast strains grow outside of the animal body under certain conditions as non-acid-fast diphtheroids?

(2) Are streptothrical forms cultivated from lepers in this region?

(3) What are the relations between the chromogen of Clegg and the non-chromogen of Duval from the leprous lesions, and what are the relations of both to other known acid-fast bacteria?

(4) What is the value of animal experiments and serological tests in differentiating the bacteria isolated from leprous lesions?

(5) Can an ætiological rôle for any of the cultures studied by us be established, to the exclusion of the others, either by means of serum reactions or by a study of the histopathological differences in the experimental lesion?

Following upon the discovery by Hansen in 1872 of an acid-fast bacillus in the leprous lesion, to which he ascribed an ætiological rôle, numerous investigators have reported success upon the artificial cultivation of the specific organism of leprosy.

In general, it may be stated that the earlier workers isolated and described cultures which tinctorially and morphologically differed from the Hansen bacillus of the tissues, and though they claimed to have induced experimental lesions and to have fulfilled other postulates, their results have not been universally accepted.

Kedrowski in 1901, described an organism which he cultivated from the leprous lesion and believed to be the specific bacillus of leprosy. This author described his culture as a non-acid-fast diph-

theroid bacillus which, when injected into laboratory animals, became acid-fast after a sojourn of weeks in the tissues. He advanced the theory that the acid-fast rods seen in human leprous lesions represent but a stage in the developmental cycle of a single pleomorphic species.

Deycke, and also Rost and Williams, have since reported upon the successful cultivation from the leprous nodule an organism similar to that of Kedrowski's, together with which they also found streptothrical forms and acid-fast rods.

More recently (1912), Bayon describes a non-acid-fast diphtheroid obtained from a leper which behaves in a like manner to Kedrowski's, *i. e.*, the initial growth from the tissues is non-acid-fast and a diphtheroid until passed through rats, after which it permanently changes into a typical acid-fast bacillus. Like Rost and Williams, he also mentions streptothrical forms in his culture. He concludes that not only is his culture identical with Kedrowski's, but also that it is the cause of human leprosy, basing his argument upon specific reactions obtained with human leper serum and also upon the production of characteristic lesions in laboratory animals.

Clegg in 1909, announced his success in the cultivation of an acid-fast bacillus which he isolated from lesions in a large series of lepers in the Philippines. He reported that multiplication in each instance occurred in the transferred leprous material when planted with amœbæ and their symbionts. He subsequently obtained pure cultures of the acid-fast organism on the ordinary laboratory media as a moist, profuse, pigmented growth after heating at 60°C for 30 minutes to kill out the symbionts.

In 1910 one of us (Duval) confirmed Clegg's work, and described a method by which the acid-fast bacilli in the leprous lesion could be cultivated *in vitro* with the use of symbionts. Duval's culture differed from Clegg's in that it did not produce pigment and refused to grow except upon special nutrients; subsequently, however, many of his cultures became rapid growers and chromogenic.

Acid-fast cultures, similar in every respect to Clegg's, have since been reported by Brinkerhoff and Currie in Honolulu, Rivas in Philadelphia, Thompson in Australia, Wellman in California and by workers in Hawaii.

Critical Note.

We wish particularly to draw attention here to the curious results obtained by various workers with leprosy organisms who believe

that they have in pure culture, bacteria of such protean pleomorphism that these may alternately appear as non-acid-fast diphtheroids, as both acid-fast and non-acid-fast streptothrices, and as ordinary acid-fast rods. For instance, Bayon, after detailing his somewhat disheartening experience with various methods of study, writes: "I now took in hand the non-acid-fast streptothrix and the acid-resisting diphtheroid I had cultivated from a leper and injected them into rats and mice. After periods varying from three weeks to several months, they were found to have turned into acid-fast rods."

Bayon attempts to support his position by reference to the experiments of Sanfelice with Streptothrix alba, during which experiments it was found that this organism can break up into cultivable acid-fast rods in the animal body.

Before Bayon's work Rost, Williams, Kedrowski and others had cultivated organisms other than acid-fast rods from leprous lesions. Rost and Williams considered the organism of leprosy (called "Streptothrix leproides") to be "an extremely pleomorphic streptothrix, which under certain circumstances may be: (1) A non-acid-fast streptothrix with interlacing filaments. (2) A non-acid-fast diphtheroid bacillus, which is in reality a streptothrix, and capable of becoming acid-fast under certain defined conditions. (3) A definite acid-fast filamentous streptothrix. (4) An acid-fast bacillus which is the broken-down stage of a streptothrix."

Now what is the explanation of these astounding findings? In the light of our own work it appears to be simple. We have met with a non-acid-fast diphtheroid in leprous lesions and have had no difficulty in obtaining it in pure culture. It has no tendency to become acid-fast either in the most diverse culture media or in the animal body. We regard it as a distinct organism and can find no evidence that it is ætiologically related to leprosy. It is closely related to the well-known group of diphtheroids (Bacillus pseudodiphtheriticus, Bacillus xerosis, Bacillus gangosæ, etc.), which can be cultivated from various sources.

Acid-fast and non-acid-fast filamentous forms we have also encountered in certain of the cultures, which became chromogenic and rapid growers. These curious forms we regarded at the time as "involutions" or degenerations of the species. However, by repeated plating and transplanting colonies from the Clegg culture, non-acid-fast streptothrices and acid-fast diphtheroids may be recovered, and these are convertable into acid-fast rods by alterations in the reac-

tion of the medium, etc. It is not necessary to pass the cultures through an animal to bring about this change.

Branching non-acid-fast streptothrices we have never noted in any of the cultures which so far are *non-chromogenic* and refuse to multiply except upon special medium.

Since we may encounter in the leprous lesion an associated pleomorphic acid-fast strain (Clegg) which is capable of changing *in vitro* under defined conditions, it is easy to explain the number of "stages" for the supposedly cultivated Hansen bacillus of the writers above mentioned.

Why is it that cultures obtained from leprous lesions, which contain one or both of these types, if injected into animals "turn into acid-fast rods?" Again, when the organism is recovered from the animal body, why is it that no medium in the wide repertoire of the bacteriologist can persuade it to again assume its non-acid-fast streptothrical character, which Bayon claims is what occurred for his culture of leprosy? The answer is again simple. By passing the culture through the animal body one gets rid of the diphtheroid or streptothrical variety and recovers in pure culture the strictly parasitic and much more delicate type of the two, which is exceedingly apt to elude all but the most careful and special technique for its recognition where it is associated with another acid-fast species.

Such an explanation is in entire accord with the experience of all bacteriologists who, as is well known, commonly employ the device of passing cultures through animals in order to separate and secure in pure growth some particular species.

The bewildering number of "stages" in the supposedly single organism of the writers above mentioned presupposes such a sweeping change in all our ideas of biological analogy, that only a most cautious and critical attitude is permissible when discussing these theories.

Authors' Recent Researches.

During the past three years we have attempted the cultivation of the Hansen bacillus from 29 cases of leprosy and have succeeded in isolating an acid-fast bacillus from 22 of these cases. The chromogenic variety (Clegg) was recovered from 14 of these cases, while 8 yielded a non-chromogenic acid-fast bacillus, which thus far has refused to produce pigment or multiply *in vitro* on ordinary laboratory media.

For many generations the sub-plants, both of the chromogenic and of the non-pigment producing forms, have each remained well within the morphological variations of a species and have in general maintained pretty closely the morphology of the Hansen bacillus as we know it in the human lesion.

In the 14 cases above mentioned, the acid-fast culture recovered has eventually undergone a marked change in morphology and cultural features, after which it could be propagated upon the ordinary laboratory media. These cultures which become chromogenic, correspond to Clegg's description of his original 7 isolations.

In the 8 cases referred to, the non-chromogenic culture, although behaving much as did the Clegg chromogenic bacillus for the first two or three months under artificial growth conditions, has refused to alter in a similar manner. This bacillus grows well on an amino-acid medium, but unlike the Clegg culture, will not multiply on ordinary laboratory food-stuff, at least it shows no tendency thus far to change in this respect.

Since the chromogenic culture, or Clegg's strain, behaves much in the same manner during the first three or four months under artificial cultivation, we have looked for a similar change to occur eventually for this "slow-growing" strain, as we have designated it. It would seem, however, that it will not do so, as the period of parasitism experienced by the cultures, which subsequently became chromogenic and vegetative, has long passed. The oldest culture of this slow-growing, non-chromogenic bacillus has now been under cultivation for more than two years, but has only attracted our special attention the past nine months, because it is now more than 50 generations removed from the parent stem and still refuses to alter.

In view of the delicate character of the growth of this organism and thinking that possibly the chromogenic strain is a distinct species, which in certain cases might be mixed with the true Hansen bacillus and thus account for the production of the characteristic lesions in the monkey with the chromogen type, we have replated the original culture (Bacillus lepræ 1) and find that it actually did contain the slow growing non-chromogenic bacillus in symbiosis with and overgrown by the more vigorous chromogenic form.

Special Methods of Cultivation.

The initial multiplication of both the acid-fast strains referred to is accomplished with comparative ease, provided that the bits of

leprous tissues transferred are treated in such a way that the protein moiety is split into its dissociate products.

This action upon the protein of the removed leprous lesions may be accomplished in the following ways: (1) By seeding the tissue transplants with some one of the putrefactive bacteria or with any species capable of hydrolizing the tissues. (2) By saturating the removed tissue bits with one per cent. trypsinized albumin solution. (3) By transferring the leprous material directly to a medium containing the products of protein digestion.

With any of these methods the acid-fast bacilli in the removed lesions will multiply and continue to do so as long as those products are present which, of course, is permanent in the case of the medium last mentioned.

In several instances we have failed to obtain any growth of acid-fast bacilli from leper patients. In one such case a diphtheroid, non-acid-fast organism was cultivated from the lesions. In these cases it may be mentioned that no acid-fast bacilli were demonstrable in stained smear preparations from the removed and macerated bits of tissue, although clinically the patients were regarded as typical lepers.

While perhaps the hydrolizing method offers the most certain means of obtaining the initial multiplication of the acid-fast bacillus, the animo-acid agar is to be preferred since, especially in the case of the non-chromogenic bacillus, it does not necessitate replating and minimizes the chance of contamination. In fact we have found that even where the tissue is first hydrolized, that the addition of an amino-acid solution, such as placental juice, is distinctly advantageous and especially if glycerine is added, as the latter holds in check the growth of the hydrolizer.

When a hydrolizer alone is used, continued multiplication is attended with the greatest difficulty as soon as the original split products are exhausted and even though placental extract or other amino-acids are substituted at this stage the growth activity is slower than in the initial period.

Experimental Lesions with Different Leprosy Cultures.

To determine, if possible, whether gross or microscopic differences exist for the experimental lesion induced by the various cultures which have been isolated from the human leprous lesion, or

whether the experimental lesions induced with any of them are similar to the human lesion or to those produced by the well-known saprophytic, acid-fast species, rabbits, guinea pigs and rats were injected with graduated doses of the respective cultures.

The animals showed at autopsy microscopic lesions in the lungs, liver, spleen and kidneys, irrespective of the culture employed, though macroscopic lesions were not demonstrable in all of the organs mentioned. The most marked gross lesions occurred in the animals injected with the bacillus of timothy hay. In general the lung lesions resembled macroscopically, the miliary tubercle, while lesions in the liver were larger and of a somewhat different character. Here they resembled small healed gummata, with centres composed of a dry, granular, salmon-colored material surrounded by a dense tough zone of fibrous tissue.

In general it may be stated that macroscopically, the lesions produced experimentally do not differ greatly for any of the species of acid-fast cultures employed, unless it be that the chromogenic culture produces lesions which appear earlier and are more localized. The lung usually shows the most extensive change and in the form of grayish-white, discrete foci, indistinguishable from miliary tubercles except possibly the absence of necrosis. Microscopically, the cell-picture or relation of the bacilli with respect to the cells, is not sufficiently distinctive of any culture employed to warrant more than a tentative differentiation.

In other words, the experimental lesion affords no absolute differentiation for any given strain or species of acid-fast organisms, excluding, of course, the tubercle family. Lesions are as readily induced experimentally with some of the well-known saprophytic species as they are induced with either the infested leprous tissue or with culture. Although relative histological differences may be detected for the experimental lesion, the difference is largely one of degree.

Serological Tests with Different Strains of Organisms.

With the view of determining a possible relationship between the acid-fast chromogen, the non-chromogenic acid-fast and the saprophytic chromogenic species, a series of rabbits was immunized with the respective cultures and a comparative study carried out upon the immune sera for the detection of specific antibodies. Realizing the difficulty of immunizing against the acid-fast group the animals

were subjected to a long period of treatment, administering large doses intravenously at weekly intervals over a period of three months.

In addition, the blood from a series of 20 cases of leprosy was also tested for specific antibodies to determine, if possible, a specificity for any given culture isolated from the same case or from other cases of leprosy. In performing these serum tests the agglutination reaction and the complement binding tests, using a culture antigen, were employed.

The serological tests with the blood of lepers have not established an ætiological rôle for any type of acid-fast organism recovered from the leprous lesion. The agglutination reaction with the lepers' blood rarely gives positive reaction in dilution of 1-50 with the separated Hansen bacilli obtained from the human nodule, while in the majority of cases a reaction is not obtained above a dilution 1-10. On the other hand, many of the tubercle family and the acid-fast saprophytes react equally as well and not infrequently in higher dilutions. The Wassermann reaction with culture antigen utterly fails to show anything specific for the various acid-fast cultures in so far as the human serum is concerned.

However, the serum reaction of animals immunized against the various acid-fast species has served to separate into three distinct groups, the chromogenic culture of leprosy (Clegg, Group 1), the non-chromogenic culture of leprosy (Duval, Group II) and the chromogenic saprophytic acid-fast species (Group III). The reactions with specific immune serum establishes the fact that there is a difference between the non-chromogenic and the chromogen leprosy cultures. Furthermore, the serum reaction indicates no relation between these strains and the known saprophytic species.

General Discussion.

The occurrence of the chromogenic bacillus of Clegg in leprous lesions, especially where these occur in the internal organs, is difficult to account for if we are to accept that it is a simple saprophyte. On the other hand, how are we to explain the occurrence of what appears to be another distinct organism in the lesions of leprosy and which corresponds more closely to our idea of what a pathogenic bacterium should be? Are we dealing with two ætiological factors, or is one the causal agent and the other an associated commensal; or are they stages of the same species, which in the human body occurs

as an acid-fast bacillus and *in vitro,* after it has accustomed itself to the artificial conditions, may grow as a streptothrical organism?

With this question in mind we have gone back over some of the cases previously examined (1911), to determine if possible what percentage yields the chromogenic culture and what proportion yields the non-chromogenic type, or whether in any case the two are encountered. In no case and at no time were we able to detect other than acid-fast bacilli and these multiplied steadily and retained their acid-fastness throughout the entire period of growth. Cultures of acid-fast bacilli were recovered from all cases. Two of these have taken on chromogenic properties and become culturally like the original isolation. The others show no tendency to alter in this respect, but conform to the description of the bacillus first described by Duval in 1910. From three of the earlier cases we have also recovered recently, by plating on placental-extract agar, an acid-fast culture which for months has grown slowly, is non-chromogenic and refuses to multiply except on special medium. In four other cases from which in 1910 a chromogenic culture was isolated, we have recently attempted a second isolation but the cultures have all turned out to be chromogens.

It is, we repeat, hard to explain the occurrence in leprous lesions of this chromogenic acid-fast which in our experience with cases in Louisiana is encountered more frequently than the non-chromogenic variety. This may possibly be explained by our present imperfect methods of cultivation. Curiously enough the chromogenic type, if we are to regard it as an extraneous and distinct organism, is always the same variety, *i. e.,* a moist, rapidly growing pleomorphic bacillus when once it becomes accustomed to an artificial environment. We have compared the original cultures of Clegg with those isolated independently by workers in other parts of the world and find them, except for inconstant minor differences, identical. That this chromogenic strain can be recovered from the lesions of certain types of leprosy there can be no doubt, and that, too, in the lesions where the overlying skin is apparently intact as well as from the internal organs at autopsy, *e. g.,* from the spleen.

It is interesting to note that the Clegg strain undergoes at times the most marked change in tinctorial and morphological features. It is relatively easy to obtain from this culture a non-acid-fast diphtheroid, a non-acid-fast streptothrix, an acid-fast beaded bacillus and a diplococcoid acid-fast type. This wide variation in morphol-

ogy and difference in staining properties might possibly account for the non-acid-fast diphtheroid "stages" described by European authors.

So far as the non-chromogenic, slow-growing bacillus is concerned we believe careful attention is merited by it. In cultures it is always acid-fast and usually occurs as long beaded rods, although in a lesser degree the morphological change described above for the Clegg culture may be applied to this culture also.

The presence of the chromogenic Clegg bacillus in the tissues of human lepers, together with the fact that disseminated lesions that are histologically like human leprosy, led Duval and Couret in a recent publication to conclude that the chromogenic strain played an ætiological rôle in the disease. In going back over some of the preparations from the animals employed we find them to contain the long beaded acid-fast rods in dense masses and also many more scattered bacilli which are shorter and less beaded (Clegg bacillus), suggesting a mixed culture. These findings were described as indicating a transformation of the long, slender, beaded rods to diphtho-coccoid forms.

We have not received the information we hoped for from animal experimentation. This is not surprising in view of the difficulty of inoculation experiments upon laboratory animals. The most that can be broadly stated is that, excepting Bacillus tuberculosis, the lesions induced by acid-fast bacilli are not sharply differentiated.

From somewhat exhaustive serological tests we have succeeded only in showing that the sera of highly immunized animals will as a rule react better to the immunizing strain than to other allied or to foreign acid-fast strains, but the reactions, either employing as an index the agglutinins or the deviation of complement, cannot be said to be specific.

In this connection, however, attention should be drawn to the more specific character of the reaction obtained by Clegg, Duval and others in lepers, using the chromogenic leprosy cultures. A cutaneous reaction similar to that secured with tuberculin in tuberculous patients was obtained by means of injections with killed bacilli (chromogen Clegg) or the "leprosin" (protein extract) of the same. A marked constitutional reaction consisting of a rise in temperature (104°F.) and a distinct leucocytosis (15,000-24,000) was induced by the injections, together with lepra abscess formation at the site of inoculation. Acid-fast saprophytes (timothy hay) failed to give the reaction. It is possible that here we have a better means of separating

the so-called strains of leprosy cultures and that further work along these lines will yield more definite results.

Conclusions.

(1) From a bacteriological study of 29 cases of leprosy we have cultivated an acid-fast bacillus from 22.

(2) A chromogenic strain similar in all essentials to that described by Clegg was recovered from 14 cases, which under certain conditions grows as (a) non-acid-fast streptothrix (b), non-acid-fast diphtheroid and (c), an acid-fast bacillus.

(3) Eight cases yielded an organism which thus far is distinctly different from Clegg's bacillus in its biological character, growing only upon special medium and not producing pigment.

(4) Animal experiments undertaken for the purpose of differentiating the two types recovered from the human leprous lesion and to fix their ætiological status are not regarded by us as conclusive.

(5) Serological tests, especially those performed with highly immune sera, suggest that the bacillus of Clegg is not related to Duval's non-chromogenic, slow-growing culture of leprosy.

(6) The rôle played by the chromogenic bacillus of Clegg in the production of leprosy is as yet an unsettled question.

(7) The non-chromogenic strain, while behaving according to most of our notions of a pathogenic organism, has likewise not up to the present been proven to be the cause of leprosy, although we are impressed with the probability of such a rôle being eventually attributed to it, and consider that it deserves more serious attention than any strain so far cultivated from the human leprous lesion.

(8) The wide variation in morphology and staining reaction for certain cultures which subsequently become rapid growers and chromogenic, explains the interpretations of European writers that Bacillus lepræ is a bacterium of such pleomorphism that it can be recognized as a diphtheroid, a streptothrix and an acid-fast bacillus.

DISCUSSION.

Dr. Biddle said that papers like the one presented by the essayists were of great value, even to dermatologists practicing in localities where leprosy was seldom seen. As an illustration, he had never seen a case of leprosy in private practice in Detroit until the 15th of last April, when a man was sent to him by his family physician in Saginaw, Michigan, for diagnosis. A diagnosis of nodular leprosy was made clinically and this diagnosis was confirmed by Dr. Varney, whom he called in consultation. The man, a Russian Jew and junk dealer, 50 years of age, had shown symptoms for eight months. Tissues from one of the nodules was sent to the Michigan State Board of Health and by the Board to the Pathological Laboratory of the University of Michigan, and the diagnosis of leprosy was confirmed microscopically by each. Since then a second case of leprosy had appeared at the clinic of the University of Michigan and subsequent to this, another case of suspected leprosy had been reported from Saginaw. The occurrence of these sporadic cases in localities where leprosy was rarely found emphasized the importance of anything that threw more light upon the early diagnosis of the disease and for that reason, Dr. Biddle said, he wished to thank the essayists for their excellent contribution to the subject.

Dr. Pollitzer said the work done by Drs. Duval and Wellman was undoubtedly epoch-making in the pathology of leprosy. He would ask Dr. Duval, however, to explain explicitly why he differed from others in regard to the Clegg bacillus as the causative factor of leprosy? What were his reasons for denying the pathogenicity of this organism, which was so constantly found in leprosy, and which produced lesions clinically indistinguishable from leprosy?

Dr. Duval said he had no positive proof as yet that the chromogenic culture of Clegg was not concerned in the production of human leprosy. The experimental lesions in the monkey, etc., were certainly similar, in their histological appearance, to those in man; however, it must be remembered that similar lesions could be produced with some of the common saprophytes, such as the bacillus of timothy hay; therefore it was possible that this leprosy chromogen was an extraneous or associated organism in the lesion of the human disease. Culturally the chromogenic bacillus of Clegg behaved in many respects like an ordinary acid-fast saprophyte. There had been described at least forty varieties of saprophytic acid-resisting bacilli, and it was possible that Clegg's culture was not the Hansen organism but one of these. If eventually it was proven that the Clegg organism had no ætiological relationship to leprosy it would be hard to account for its almost constant occurrence in the lesions, especially those in the internal organs such as the spleen, liver, etc. Kedrowski might be correct in thinking that the Hansen bacillus could occur as a non-acid fast diphtheroid, a streptothrix and an acid-fast rod, and if so the Clegg culture which at first was slow-growing and non-chrome producing, might be one of the stages in the developmental cycle of the specific organism. The speaker said he did not know that the Clegg bacillus was one of the stages of the Hansen organism any more than he was able to say that it was a separate species. In this connection he would state that possibly we had to do with two distinct organisms in the lesion of human leprosy, both of which were of ætiological significance. In reply to a question by Dr. Engman, Dr. Duval said that he knew very little about the bacteriology of rat leprosy. That the organism of rat leprosy could be cultivated from the animal tissue upon an amino-acid medium there was no doubt. Bayon of the Lister Institute in London stated that he had grown the rat leprosy bacillus, and that it was similar if not identical to Kedrowski's and the speaker's leprosy isolations.

DIAGNOSTIC VALUE OF THE NOGUCHI LUETIN REACTION IN DERMATOLOGY.

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THE difficulty of diagnosis in certain cases of syphilis is recognized in any period of the disease, whether it be the active stage with or without visible manifestations, or later when the lesions may be limited to internal organs. It is in these obscure cases that any new test which may give an additional aid for the detection of the disease if present, would be a valuable adjunct to our present means of diagnosis, and more particularly in the later stage of syphilis. Such a test would be very valuable if it could be utilized by the general physician without demanding the laboratory skill necessary for a serodiagnostic test.

A brief consideration will be given to the methods in use by which a diagnosis for the presence of syphilis is made, namely: clinical history; objective characters, including the histopathological course of the lesion; therapeutic test; microscopical examination of the affected tissues for Spirochætæ pallidæ; serodiagnostic test.

Clinical History.

This should be considered only in conjunction with some of the other methods, especially that of clinical observation of the lesions. One must be guarded as to the value of a history as given by a patient since it is well known that such statements are frequently unreliable from want of knowledge or from a wish to deny the existence of the disease, or from the belief that a non-syphilitic eruption when located upon certain parts of the body was a syphilitic affection and perhaps had been so diagnosed by a physician. Moreover, even though an intelligent patient is desirous of truthfully answering all questions he may on account of a failure to have observed an eruption, deny ever having had a primary sore or any syphilitic manifestations.

While the clinical history has no decisive value in the diagnosis of syphilis, it may suggest the possibility of this disease in the primary stage in certain cases. Thus an acute inflammatory lesion on

the cutaneous surface or mucous membrane that is sharply limited, non-suppurative in character, of limited extent and indurated, and with a clinical history of having existed two, three or four weeks without continuing to extend in area or showing characters of an acute pyogenic inflammation of the cutis, should suggest the possibility of syphilis. In such a case the use of a positive method of diagnosis such as a microscopical examination for the Spirochæta pallida would decide the question and save valuable time in treatment.

Objective Characters.

The cutaneous lesions of syphilis are polymorphous and imitative, closely resembling, sometimes, other forms of skin diseases and making a diagnosis difficult in some cases, especially when the lesions are few in number. In the vast majority of cases an expert can make a positive diagnosis on the objective characters alone without the aid of any of the other diagnostic methods. But this may be difficult, and often impossible, in the limited number of cases where lesions resemble those of tuberculosis of the skin either in the lupus vulgaris form, or that of tuberculosis verrucosus cutis, or in cases of blastomycetic dermatitis, and in some forms of eczema, especially of the palms in syphilitic subjects.

A case of tertiary syphilis in an adult of middle life, recently came under my notice, which had been diagnosed as tuberculosis, and treated for two years with the X-ray and other local applications. The face became greatly deformed from ulceration and scar tissue formation, and the sight of one eye was lost. It is needless to say that such an error would not have been made by an expert in the diagnosis of syphilis, either from the clinical history or the objective characters present in the case. A positive diagnosis was made on the objective characters alone, although a sero-diagnostic test was also made and was positive. There are cases, however, of syphilis that are difficult of recognition, and require extended clinical observation or some other method for a definite diagnosis. Whilst the objective characters of syphilitic lesions are, as a rule, so characteristic than when present no other means of diagnosis of syphilis are requisite for the expert, it should not be overlooked that a past history of syphilis or the presence of syphilitic lesions upon the body does not exclude the presence of another cutaneous eruption

occurring at the same time and independent of the syphilis, or may even be the result of syphilitic lesions.

This is particularly true in reference to syphilitic affections of the tongue and buccal mucous membrane, where cancer of the tongue is often found in a syphilitic patient with syphilitic lesions, especially gummata or leucoma of these parts. The cancerous lesion is sometimes not recognized because the patient gives a specific history and shows marked syphilitic lesions, with perhaps a warty, fissured, ulcerative or leucoplakial condition of the tongue, diagnosed as syphilitic, possibly, by both the objective characters and a serologic test, and the cancerous condition is thus not recognized. A treatment is consequently postponed which might have been successful in an early stage of the disease. A microscopic examination should be used as a means of diagnosis in such cases where a doubt may arise, but careful observation of the objective characters, and study of the histopathological condition of all the lesions present would usually avoid such a serious error.

There are periods in syphilis, even in the contagious stages where no lesions are present upon cutaneous surfaces, and where internal organs are involved without any external manifestations, hence the diagnosis of syphilis cannot be made in these cases from objective characters. Other tests are therefore essential, and lately we have depended upon the sero-diagnostic test. A therapeutic test was formerely, to an extent, relied upon which, although often of value, cannot be depended upon, and will not be further considered in this article.

Microscopical.

Since spirochætæ pallidæ are present in syphilitic lesions, it might be assumed that a microscopical examination would be used in all cases. However, as previously stated, a positive diagnosis can be made in a majority of cases from the objective characters, and such a diagnosis is equally, and sometimes more, reliable than a microscopic examination.

The special value of a microscopic examination is found where there is a doubt as to a lesion being a primary chancre, a chancroid, or a pyogenic dermatitis, a verruca necrogenica, or even a cancer. This method of diagnosis has rather a limited field of usefulness for physicians, and may be regarded as usually restricted to lesions having objective characters resembling somewhat those present in

certain cases of primary chancre, as mentioned above. In such doubtful cases, it is a reliable method of diagnosis. When the lesion to be diagnosed is situated on the tongue, the difficulty of a definite diagnosis of syphilitic spirilla from other spirilla is recognized even by expert microscopists.

Serological.

This test, when positive, is of decided value in cases of doubtful diagnosis from objective characters, or in morbid conditions of internal organs where it is important to know if an individual has had syphilis. Reference has already been made to the cases of doubtful diagnosis from the objective character of lesions on the cutaneous surface, in which cases a sero-diagnostic test is of great service.

It must be remembered that a patient under so-called anti-syphilitic treatment may give a negative reaction in spite of the presence of syphilitic symptoms, therefore one cannot always be guided in treatment by the presence or absence of the Wassermann reaction. It is of value only when positive, as indicating that syphilis is still present, while a negative reaction does not necessarily prove that syphilis is absent. This reaction, while of much service in the diagnosis of syphilis, is not specific, as it may be found in cases of leprosy, malaria, yaws, and in a few cases of neoplasms. The test is a very valuable one, but is not absolutely decisive in all cases, especially in the chronic periods of the disease.

Luetin Reaction.*

Leutin is the extract prepared from pure cultures of the spirochæta pallida, and is intended for use in the diagnosis of syphilis as von Pirquet's test is for tuberculosis. An anaphylactic condition of the skin, which is called an allergic condition by von Pirquet,[1] in cases of tuberculosis, is developed in the body of syphilitic patients who have had the disease for an extended period. The luetin reaction is based upon the phenomenon of anaphylaxis, and was discovered by Noguchi[2] from observations following his successful cul-

* Dr. Noguchi kindly placed the necessary reagents at my disposal with which I made the luetin reaction in my dermatological cases at the New York Polyclinic Hospital, and the Northwestern Dispensary, and I am indebted to Dr. Lapowski for cases from his clinic at the Good Samaritan Dispensary, and to Dr. Dillingham for the cases of tuberculosis from St. Joseph's Hospital.

tivation in purity of the spirochæta pallida. He has already published the fact that there is a local anaphylaxis in the skin of syphilitic patients which can result in a local inflammation when the extract of spirochæta pallida is inoculated.

Such a reaction has been anticipated by various investigators, including von Pirquet. Noguchi states that the extract of the pallida, which he terms luetin, does not produce any marked inflammation in the skin of non-syphilitics, while it gives a definite lesion formation in most cases of tertiary, latent and late hereditary syphilis. The reaction is supposedly absent in primary and secondary untreated cases, as the anaphylactic condition cannot be produced when the spirochætæ are vigorous and abundant. Should the luetin produce an inflammatory reaction in cases of doubtful diagnosis, it would indicate that the patient has been under the influence of the syphilitic organism sufficiently long to have arrived at the stage of anaphylaxis.

The development of anaphylaxis requires a varying length of time in different diseases. In syphilis, it appears after the disease has apparently passed the acute stage, that is, subsequent to the so-called secondary stage. It is of interest to note that Noguchi finds the luetin reaction developed in secondary cases when treated energetically, and that salvarsan produced this change more rapidly than other methods of treatment.

Cohen[3] made a study of the luetin reaction in sixty ophthalmological cases, and recently published an article giving the results. He finds this reaction specific, and that it offers great aid in cases where either clinical symptoms or Wassermann reactions alone were inadequate.

Before presenting my results it may be advisable to state the effect which followed the inoculation of the luetin, although this has been carefully recorded by Noguchi and Cohen in their work.

The following changes were, as a rule, observed in luetic cases where the reaction was positive: At the site of the luetin inoculation on the day after, or second day, an erythematous area may be observed, varying in size from a large pea to a twenty-five-cent piece, sometimes larger, with a central papule formation of variable size. The papule is sometimes markedly elevated, more or less firm to pressure, reddish in color, and occasionally sharply limited without any signs of an erythematous area, or it may appear later than the second day, and be of a deep-red color. A day or two later the

lesion may increase in size, become ovoid in form, darker in color, with a smooth shining surface, the margin losing itself in the level of the surrounding skin, generally firm to the touch, showing exudation into the tissue, the redness almost entirely disappearing upon pressure, but returning quickly upon the removal of pressure. This may later be followed by a phlegmonous inflammation with or without any signs of suppuration and sometimes presenting a thin scaliness. These symptoms gradually diminish, leaving several days or so later, a deep bluish, infiltrated, indurated lesion that gradually disappears and may be followed by a slight pigmentation. Occasionally only an elevated, reddish, indurated papule about the size of a pea may appear, but this inflammatory induration should continue beyond the fourth day to decide its action, since a mild reaction may occur in non-syphilitic cases at the site of the luetic inoculation, due sometimes to bacterial invasion or to an inflammation produced by the injection of a foreign substance, which, however, subsides at the end of the second or third day, leaving no further traces of irritation. A yellowish centre is almost always observed in such a papule.

Three cases, of which two were tertiary and one was latent, showed an exceptionally intense reaction: The inoculation which was a fairly sharply limited lesion was the size of a twenty-five-cent piece, dark-reddish in color, having in the centre a dark hæmorrhagic spot, pinhead in size. The epidermis was removed from two-thirds of the general surface, as a slight desquamation, the epidermis of the outer one-third being intact. The lesion at the margin was not visibly elevated and disappeared almost entirely upon pressure, showing the ordinary characters of a mild, so-called phlegmonous inflammation. The whole lesion was obtuse in form and no signs of suppuration were present. There was considerable pain, and the lesions in each case burst on the seventh day, and a large quantity of bloody serum oozed through the opening. The site of the control inoculation showed a lesion slightly smaller, about the size of a five-cent piece with exactly similar characters to those of the luetin lesion, except that the inflammatory process was not so intense and there was no hæmorrhagic spot in the centre, and no desquamation was present. Both sites presented the same characters to the touch, that is, the recognition of an exudation or mass somewhat firm and extending to near the limit of the reddened area, with the presence of marked itching. These lesions existed during a period of two weeks or

longer, and in one case (latent) where constitutional symptoms were present, characterized by fever and a general systemic disturbance, the lesions disappeared only at the end of about six weeks.

Herewith is appended a list of all the cases studied by me in connection with this test. A serologic test was made in almost all of the cases. Observations were made on 180 cases, including 63 cases of various stages of syphilis (Table 1), 108 control cases (Table 2) and 6 cases where syphilis was previously overlooked but discovered after the tests were made (untabulated).

TABLE 1.

	Number of cases.		Symptoms present. Luetin.	Symptoms present. Wassermann.	Symptoms absent. Luetin.	Symptoms absent. Wassermann.	Total. L.	Total. W.
Primary syphilis	4	Positive reaction	0	3			+ 0	3
		Negative reaction	4	1			— 4	1
Secondary syphilis	35	Positive reaction	20*	25***			+20	25
		Negative reaction	15**	10*			—15	10
Tertiary syphilis	17	Positive reaction	13	8	4	2	+17	10
		Negative reaction	0	5	0	2	— 0	7
Latent syphilis	5	Positive reaction	2	1	3	0	+ 5	1
		Negative reaction	0	1	0	3	— 0	4
Congenital syphilis	2	Positive reaction	1	1	1	1	+ 2	2
		Negative reaction	0	0	0	0	— 0	0
	63	Positive reaction	36	38	8	3		
		Negative reaction	19	17	0	5		

* Under regular treatment, ** no or slight treatment, *** the majority only slightly treated.

TABLE 2.

(Control cases)

	Number of cases.	Luetin reaction.	
		Positive	Negative
Acne vulgaris	9	1*	8
Alopecia areata	3		3
Bromide eruption	1		1
Carcinoma	6		6
Darier's disease	1		1
Eczema (various forms)	15		15
Erythema multiforme	4		4
Erythema toxicum	3		3
Herpes zoster	5		5
Ichthyosis	2		2
Keloid	2		2
Lupus erythematosus	6		6
Molluscum contagiosum	1		1
Pityriasis rosea	2		2
Psoriasis	14		14
Sarcoma (Kaposi)	1		1
Scabies	10		10
Sycosis	3		3
Tinea versicolor	2		2
Trichophytosis	4		4
Tuberculosis pulmonalis	12		12
Xanthoma	2		2
Total	108	1	107

* A woman of 40 years of age with a questionable history, admits two miscarriages, and is a chronic alcoholic subject. The Wassermann reaction could not be performed as she objected and would have been of no avail on account of her constant use of alcoholics. Syphilis cannot be excluded from this case.

A few words in regard to the results presented in the foregoing tables may be added here. From the control cases (Table 2), it may be noted that the reaction does not occur in non-syphilitic conditions. The only case included therein as positive was treated for acne vulgaris, but, as mentioned at the foot of the table, it is probable that the patient is a latent syphilitic. An examination of Table 1, (syphilitics), shows a great difference from what was observed among the non-luetic cases. Here we have varying percentages of positive luetin reaction according to the group of patients tested. Thus, in the primary cases there was no positive reaction at all, while in the tertiary and latent cases the reaction was positive without exception. The cases classed as secondary divide into a positive and a

negative group in fairly even numbers, but the rule is apparently that the positive reactions were almost invariably among those under treatment for some time, while the negative were among the untreated fresh cases.

A comparison of the luetin and Wassermann reactions shows a higher positive percentage of the Wassermann among the primary and secondary cases and the greater delicacy of the luetin reaction among the tertiary and latent cases of syphilis. In comparing the two reactions one must not lose sight of the fact that the Wassermann reaction becomes gradually weaker or negative under the influence of treatment, whereas the luetin reaction may gradually become more distinct in cases where anaphylaxis has not fully developed before, and remain but little influenced in the patients in whom it was already established.

The luetin reaction was of decided value in the following instances:

One of the latent cases with a negative Wassermann reaction: Mrs. T., aged 61, gave a history of infection 35 years ago, for which she was treated by a prominent dermatologist of London. She had no external lesions for 16 years. When she came to my clinic in October, she complained of periosteal pains and occasional headaches. She was placed under anti-syphilitic treatment until January 17th, when a luetin test was made which showed a marked positive reaction on the luetin inoculation site, the lesion bursting with considerable oozing of blood at the central part, on the seventh day. The site of the control inoculation area showed a somewhat similar lesion, which differed in that it occupied a smaller area with a less intense inflammation, and did not rupture.

The second case was a patient in which the objective characters of the lesions were so unusual as to make the diagnosis of syphilis from these characters alone, a doubtful one: P. H., female, age 54, mother of seven children, all of whom are living and healthy, and none of whom has had a skin disease. Her husband is living, but no history of syphilis is obtainable. The lesions, which were confined to the tongue, commenced two years age as white patches that increased in size, covering a considerable area on the sides of the tongue, and which later diminished in size, but never disappeared completely. The lesions were situated on both sides of the tongue; that on the left side was one and one-half inches in length, with a diameter of one-half inch; two-thirds of the central portion of this abnormal area presented quite a whitish patch of marked thickness that resembled closely a diphtheritic membrane, as if a necrotic tissue was present rather than a leucoplakia patch. A red, inflammatory area of sharp limitation surrounded this patch. A similar but smaller patch was present on the right side, with a corresponding periphery. The lesions gave the impression of the existence of an acute inflammatory process, with necrotic changes of the epithelium in the central affected area—a traumatic glossitis. A diagnosis of syphilis could not be made with the aid of the clinical history. It is not known if these objective characters existed during the past two years, as the patient was unable to furnish this information. The dorsum of the tongue was devoid of any lesions, but was somewhat furred. There were no

teeth in the lower jaw and in the upper jaw, only the two canine teeth were present.

The buccal mucous membrane was normal. The patient claims that she does not smoke or take alcohol. The Wassermann and luetin cutaneous tests were positive. This patient was given anti-syphilitic treatment and improved rapidly.

Other cases of interest (not included in the table) were one patient with acne vulgaris and 5 cases of pulmonary tuberculosis, where a positive luetin reaction was obtained. A close examination into the history of these cases revealed a hereditary lues in the case of acne and it was afterwards learned that the patient had been treated for syphilis many years ago. The Wassermann reaction was also positive in this case. The 5 cases of pulmonary tuberculosis with a positive luetin reaction admit and present the evidence of having had syphilis and three gave a positive Wassermann reaction. This result would indicate that the luetin reaction has a greater diagnostic value than the Wassermann reaction in certain cases of latent syphilis simultaneously suffering from pulmonary tuberculosis.

Conclusions.

1. The luetin reaction was found to be specific for syphilis and affords a means of diagnosis in certain cases.

2. It was absent in primary and secondary untreated cases.

3. It was present in all cases of tertiary, latent and late hereditary syphilis herein reported. In secondary treated cases the reaction may be positive.

4. The luetin reaction is more constant in tertiary, latent and late hereditary syphilis than the Wassermann reaction.

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NOTES ON SALVARSAN

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ALTHOUGH salvarsan has established its claim to fitness for the treatment of certain lesions of syphilis and although the laboratory assures us that under treatment by this drug spirochætæ disappear more rapidly than under treatment by mercury, discussion continues as to the best method of administering salvarsan for the cure of the disease. The "miracle-madness," the "cure-by-a-single-dose" theory, has happily subsided, but there is still question as to whether we may expect a cure from a brief course of large doses given at the onset of the disease or from smaller doses given in greater number.

In the later stages of the disease a series of relatively small doses (2 to 3 decigrams), or perhaps a number of such courses ought to prove more efficacious than a few heroic doses; unless we can first prove that such heroic measures are curative in the treatment of early syphilis.

It is surprising how the human mind clamors for infallible remedies. On all sides we are told that lesions of syphilis do not return after two large intravenous injections. In order to test this theory, I have treated some fifteen private patients at or about the time of the onset of secondary symptoms by the administration of two intravenous injections of salvarsan in alkaline solution, at two weeks' intervals, using for each injection 300 cc. of freshly distilled water, containing six decigrams of salvarsan. Each of these patients was instructed to begin a mercurial course at the end of two months after the second injection, but to my surprise three of them showed evidence of syphilis within that period: one by exhibiting mucous patches on his tonsils; a second by a typical mucous patch at the site of his chancre (which cleared up under three or four injections of gray oil); the third by a papulo-squamous syphilide distributed in irregular patches over the thorax and forearms and with very characteristic lesions upon the palms of the hands and the anterior aspect of the left wrist (these lesions cleared up under injections of the salicylate of mercury). Two of these patients also developed positive Wassermann reactions. Such results discourage the hope of a cure from two doses of salvarsan.

Since the *therapia sterilisans magna* is thus driven to abandon its first position, cure by a single injection, and its second position, cure by two injections, we have still to choose whether we shall cling

to the theory and give as a routine three, or four, or five large injections, or relapse into a native scepticism and administer salvarsan as we do any other drug, while keeping an open mind for what the future may disclose. The latter seems, at least in the light of my experience, the proper course for the present. Indeed, very few patients would be willing to incur the expense, the suffering and the inconvenience essential to the more heroic course, not to mention its dangers. A further advantage of giving smaller doses is that we may seek to find the minimum dose which shall be large enough to relieve symptoms, yet small enough to give no considerable reaction and, therefore, applicable to administration in the physician's office.

My experiments* upon this subject have been concerned with the following four points:

1. The advantage of using freshly prepared distilled water.
2. The relative advantage of acid and alkaline solutions.
3. The technique of injection in the physician's office.
4. The efficiency of small doses.

Freshly Prepared Distilled Water.

Six months ago Wechselmann suggested that the immediate systemic reaction to the intravenous injection of salvarsan is due not to the drug itself but to impurities in the water, or to the sodium hydrate, administered with the drug. He found that the injection of alkaline solutions of salvarsan in water *freshly* distilled was followed by surprisingly little reaction, and attributed this difference in the action of water freshly distilled as compared with water that had been distilled some time previously, but recently sterilized by boiling, to the fact that spores of non-pathological microörganisms in such water develop between the time of distillation and that of boiling and though killed by the boiling, leave an albuminous element (their corpses) in the water which unites with the salvarsan to cause a disintegration of this into less highly organized compounds of arsenic, to which the toxic effects of the drug are attributable. Wechselmann's theory has been supported by many independant observations, notably those of McIntosh, Fildes and Dearden.* These authors observed only a few reactions among many cases, but believe the atoxic preparation less efficacious. However, this may be,

* No claim of originality is made for any of this work. It is frankly recognized that many of my conclusions are distant echoes of those long since arrived at by others.

* *Ztschr. f. Immunitätsforsch.*, 1912, p. 164.

the use of freshly distilled water certainly diminishes the immediate reaction. Several writers have claimed that by this means the reaction may be altogether eliminated. But I have encountered several exceptions in cases to whom a dose as high as 5 or 6 decigrams had to be administered. Even in these, to be sure, the temperature reaction was relatively slight (only 100°F. or 101°F. but once to 103°F.). Yet, from the point of view of the patient the diminution of temperature reaction did not make a great difference, for several of them went through the familiar cycle of chill, nausea (even vomiting) and depression; so that even the use of freshly distilled water does not put us in a position to guarantee that large doses can be given without quite a sharp reaction requiring at least six or eight hours in a hospital. But with small doses, up to 3 decigrams, I have had, with very rare exceptions, no reaction. If the patient is at all nervous even this dose should be administered for the first time in a hospital, in which the patient should remain for at least six hours. Subsequent doses may then be administered at the physician's office in the evening, the patient being instructed to come after eating a light supper and to go straight home to spend a very quiet evening or to go to bed.

The Acid Solution.

A recent paper by Dr. G. M. MacKee* collects the reported data on the use of the acid solution and records his experience with eleven cases. This contribution shows that the danger in the use of acid solutions lies in their concentration. The acid solution becomes alkaline as it enters the blood and the transition through the insoluble neutral stage occurring in the blood stream may give rise to so dense a clot as to choke the circulation and cause instant death if the acid solution is given concentrated. But if each decigram of salvarsan is diluted in 50 cc. of water, the reaction produced by the injection of the acid solution is not materially different from that produced by the alkaline solution, when a large dose (more than 3 decigrams) is given.

An experience with some thirty cases has confirmed this observation, but has shown that the reaction to the acid injection is very much more rapid than to the alkaline. Thus a marked flushing of the face and a sense of faintness or excitation may occur while the injection is being given, and in such cases the temperature rises to

* *Med. Jour.*, New York, Oct. 21, 1911.

a maximum almost immediately (and practically always within the first hour), in marked contrast to the slower rise after the alkaline injection.

But, what is more important, this reaction often occurs, to a less degree, even when small doses are given, thus interfering materially with the convenience of using the acid solution for office work. On the other hand the acid solution has the advantage of being distinctly less irritating than the alkaline solution if injected into the subcutaneous tissue, and it has seemed to me that the phlebitis which is associated with a little pain at the time of injection and characterized by a considerable thickening of the wall of the vein, coming on in a few days and lasting for several months, is less common and less severe after acid than after alkaline injections. This is a very distinct advantage if we are to employ repeated intravenous injections, for although the thickened vein still has a lumen which transmits blood, this lumen is so small that it is almost impossible to find it with a needle, and it would be quite possible thus to occlude all the superficial veins in a given case before the necessary number of injections had been given.

As a compromise between this local reaction to the alkaline solution and the general reaction to the acid solution, I have of late been experimenting with a solution to which sodium hydrate has been added up to the point of getting a maximum of cloudiness and then, further, to the point of almost, but not quite, clearing the solution. Such a solution is markedly alkaline, and it becomes slowly clearer while the injection is going on, so that, though it was quite opalescent immediately after the addition of the alkali, it will have become practically clear by the time the last drops have been injected. Of course, it is possible that an injection thus given may carry into the circulation those fluffy, insoluble particles often seen in the solution after it has been thoroughly alkalinized. Yet I have so frequently injected a solution containing these particles without producing any bad reaction that I fancy this objection is unimportant.

Among some fifteen injections of this partially redissolved solution three (two in one patient) have resulted in indurations at the point of puncture and for about one centimetre up the vein. In each of these cases the temperature of the solution as it entered the vein was too low (below 95°F.). This was doubtless a contributing cause in the production of the induration. It is encouraging, however, to find that such indurations as did occur were so limited in extent. But the observations are too few to be convincing.

The Technique of Injection.

Two objections may be raised to the type of apparatus usually employed for the injection of salvarsan. In the first place it is large, cumbersome and difficult to sterilize. In the second place the Schreiber needle commonly employed is relatively dull, and on account of the corrosive action of the salvarsan has to be sharpened for every injection; or if a platinum needle is employed this also is kept sharp with difficulty on account of its softness. Now inasmuch as the salvarsan solution is as fluid as any solution commonly employed for hypodermatic injection, the only objection to the use of an ordinary hypodermic needle, with which the vein can be punctured far more precisely than with the Schreiber needle, is the difficulty of forcing the large quantity of fluid through so small an orifice.

As a compromise to obviate these various difficulties, I now employ the following apparatus:

A glass-stoppered bottle into which 200 cc. of water is freshly distilled.

A 3-decigram tube of salvarsan.*

A rather large (20 bore) hypodermic needle of the slip-on pattern.

An ordinary hypodermic syringe attachable to the needle.

A 20 cc. syringe with a three-way stop-cock attached to it, from which depend two rubber tubes; the one to draw up the salvarsan from the bottle; the other to inject it into the hypodermic needle, the latter fitted with a metal or hard-rubber tube to fit into the needle.

A 15 per cent. solution of sodium hydrate and a dropper.

The bottle is sterilized by boiling. The needle, three-way stop-cock and syringes are kept in a 20 per cent. solution of formalin, supersaturated with borax.

The technique of the operation is as follows: The glass bottle and stopper are boiled and while this operation is in progress the distillation of the water is started; then the bottle, still hot from its boiling, is placed under the still and the first few spoonfuls of water to distill into it are swirled around in it, and thrown away. The bottle is then replaced under the still until 200 cc. of water has accumulated. Meanwhile the patient is placed in a recumbent position upon a table, the arm extended, a small space on the flexor sur-

* I was fortunate enough to obtain a large number of these half-size tubes in Europe last summer. At that time they were not to be had in America.

face of the elbow painted with iodine or alcohol, the surrounding areas protected by towels and a rubber tourniquet applied just below the insertion of the deltoid. Meanwhile the syringes, etc., are taken from their antiseptic solution, their outer surfaces dried, and their inner surfaces cleansed by passing through them 50 cc. of the distilled water. The small hypodermic syringe is filled with this water, the 3 decigram tube of salvarsan emptied into the remaining 150 cc. in the bottle, violently shaken until complete solution has taken place, and almost completely redissolved by alkalinization with the 15 per cent. sodium hydrate solution. Experience will teach to what extent it is necessary to cool the distilled water during the process in order to reduce it to a temperature of about 110°F., at which it should be injected. The hypodermic needle is now attached to the small syringe, the large syringe and rubber tubes filled with salvarsan solution, and the needle plunged into the median basilic or cephalic vein. With so small a needle this operation assumes a simplicity undreamed of by anyone who is accustomed to employing needles of larger calibre. Even a small vein can be accurately punctured after a little practice and one can almost always be mathematically certain that the needle is in the vein; while any doubt may be dispelled by injecting water in the syringe. The syringe is then disconnected and the needle attached to the rubber tube dependent from the three-way stop-cock; through this the salvarsan is readily pumped into the vein.

The operation may be performed by one person; but inasmuch as the needle very readily slips from the vein, it is more convenient to have an assistant do the pumping while the operator steadies the needle. It is, by the way, practically impossible to keep the needle in the vein if attached to the syringe by a rigid connection; and I do not believe that the use of a 150 cc. syringe, to give the whole dose at one stroke of the piston, would be of any material advantage. After the operation the patient remains long enough to be completely reassured that no immediate harm is going to befall him. As a rule it is better to place a light bandage around the elbow for an hour, though this is no means always necessary.

The Dose of Salvarsan.

Inasmuch as the *therapia sterilisans magna* has, for the moment at least, failed to bear out its early promise, it is of importance that we study carefully the effects, both good and bad, of smaller doses of salvarsan, as compared to the 6 decigram doses that were

originally employed. For some four months past I have been using only 2 and 3 decigrams to a dose and have been surprised to find that doses of this size appear to have precisely the same therapeutic effect as the 6 decigram doses which I had been employing during the preceding year.

Thus a single dose of 2 decigrams appears to clear up mucous patches quite as rapidly as does the larger dose.

I have seen an ulcerative tubercular syphilide of the end of the nose which had been uninfluenced by six 1-grain injections of gray oil, heal in a week after the first dose of 25 centigrams of salvarsan. A node on the shin and a threatened perforation of the palate were cured by a single dose of 3 decigrams. A palmar syphilide required two doses of 3 decigrams each. A patient with a syphilitic spine came to the hospital six months after having received one intravenous and one intramuscular dose of 6 decigrams of salvarsan, many injections of gray oil and repeated courses of potassium iodide, up to 100 and 150 grains a day. Under these treatments he had deteriorated until he could no longer walk, or write intelligibly, and with spastic paralysis of both arms and both legs, the right side of his face and larynx (so that his voice was very squeaky), while his mental deterioration showed itself in the weeping with which he responded to the slightest emotion. I have had him at the hospital two and one-half months, and have given nine doses of salvarsan during the time, of which five were of three decigrams, two of two and a half and three of two decigrams. After the first dose his laryngitis and facial paralysis cleared up; the other difficulties have responded more slowly. But after the sixth dose he began to walk for the first time in three months and he is slowly regaining control of his muscles.

These cases are but examples, chosen from among many, of how well the immediate action of small doses compares with that of larger ones. On no occasion have I felt that I should have obtained any more brilliant result by the use of larger doses.

On the other hand I have not been able to verify the entire freedom from symptoms of patients treated exclusively with the solution made with freshly distilled water. It is never more than 20 minutes from the time the water is distilled until it is in the patient's body under my system, and I have given no dose larger than 3 decigrams. Yet about one in ten of the injections is followed by nausea, fever, vomiting or diarrhœa, and in one case a general reaction with fever and characterized by pains in the bones, lasted

for two days, after each of two successive injections, although the patient had no reaction after the third. Inasmuch as he was suffering from that type of naso-pharyngeal catarrah, commonly called grippe by the laity, at the time he took the first two doses, it is conceivable that this condition may be in part to blame for the reaction. None of these reactions, however, has been sufficient to cause the patients any grave alarm, or to induce them to summon their physician.

I have only once repeated the injection after an interval of less than seven days. There seems no need of lessening this interval. Indeed, after the first two injections I usually make the interval two weeks. Only once (in the case above mentioned) have I given more than four injections to a course. After these four it would seem wise to do a Wassermann test at the end of a month, and if this is positive to give two more injections (I have not had to do this); if negative, the Wassermann test should be repeated at the end of three months, when a positive result should be followed by more injections. Beyond this little can be said at the present moment.

Indeed, it seems futile to discuss the pros and cons of the prolonged treatment of syphilis with salvarsan for some years to come. Even our immediate results are subject to revision, and we have already had to revise them so many times that it seems more prudent to expound our theories as such, supported only by illustrations, and not fortified by statistics, since these are inevitably so incomplete and so fresh as to be almost worthless.

SPECIAL REVIEW OF SALVARSAN.

By Faxton E. Gardner, M.D.

(*Continued from page* 48.)

Ever since salvarsan was first heard of, there have been scattered reports of death after its use. These reports are of two kinds; those pertaining to patients presenting grave lesions or a profound cachexia, injected *in extremis,* for whose fatal outcome nobody blames salvarsan; and those made in patients presenting no apparent contraindications to the drug, as generally understood. The latter are much more important to study carefully. Not long ago, Ricklin collected twenty-three such cases. Since then the new cases (Hrlidcza, Milian, Queyrat, Rouget, Balzer, Oltramare, Caraven, three cases reported by Gaucher) bring up the total to thirty-five. In most of these cases, death occurred on the fourth, fifth or sixth day, after an interval of apparently perfect health. Rarely did the accidents begin a few hours only after the injection.

Death occurred almost always after epileptiform seizures, in marked hyperthermia (104-105° F) and coma. In almost all cases, the patients had had syphilis for several years and had been treated with mercury and iodides; in Fischer and Caraven's case, the syphilis was recent. Except in three cases, the *second* injection was the fatal one; in three instances, the first. The dose was not always 0.6 gm.; death has occurred after the injection of 0.4 gm. and 0.3 gm. Autopsy *in most cases* disclosed latent, clinically undetectable lesions, particularly of the *meninges,* liver, kidneys and aorta; but sometimes nothing but an intense congestion of all organs and unmistakable signs of general arsenical poisoning. If we cannot fasten the blame directly on salvarsan, it is nevertheless very difficult to deny the causal relation between the salvarsan injection and death; it seems that in old syphilities carrying latent lesions, especially of the meninges, the injection gives a real *"coup de fouet"* to the process. However unpleasant it may be for the physician, it is highly desirable that all cases of grave accidents and death should be reported; already in some high quarters, conspiracies to hide such cases are already charged, and the question must be elucidated at any cost; it is too important to be smothered. Nor is it fair to dismiss the case lightly, without explanation, or with a prejudiced one bent upon exculpating salvarsan.

An unpleasant sequel not infrequently observed after an intravenous infusion of salvarsan is thrombosis of the brachial vein, with considerable œdema and pain in the arm. It generally responds to treatment by elevation, hot packs and rest. The tendency has been generally to blame a defect in the technique as the cause of these accidents; but Gaucher and others assert that they are due to a special action of salvarsan on the endovenous lining; the injection, especially if hyperalkaline, causes a desquamation of the epithelium and thrombosis follows; the whole process remaining aseptic. Such a view is supported by the few reported cases of thrombosis in distant veins (Clingestein, Klausner) after a long, perfectly apyretic interval. In Klausner's, the most recent case, the injection was not followed by untoward effects, until seventeen days later, when a thrombosis developed in the femoral vein of the side opposite that of injection. Without going on to an extensive thrombosis, local alteration at the site of injection, thickening, sometimes even obliteration of the veins are fairly common.

Still another untoward contingency is *jaundice,* of which Milian has published twelve cases and Lévy-Bing two more. It may be light (subicterus) or dark (real jaundice) giving the patient the bronzed skin of an Indian. This complication, on the whole rare, seems more frequent in women; and in these the dark icterus is almost exclusively observed; but neither the duration of the syphilitic infection, nor the previous treatment, nor the age of the patient seem to have any influence. It begins generally

five days after the injection; it is, in Milian's and Klausner's opinion, a hæmolytic icterus, but has no bad prognosis and yields readily to a simple treatment as for a catarrhal jaundice (milk and Vichy water). Lévy-Bing and Durœux, while admitting the hæmolytic nature in some instances, affirm that some others are due to the toxic action of the arsenical compound on the liver and are of hepatic origin, because an increase in the volume of the liver may be noted, and the symptoms of biliary intoxication are very marked. Furthermore, biliary pigments and acids have been found in the urine in their cases, which is distinctly contrary to the hypothesis of hæmolytic icterus. Finally, there were no hæmolysins in the blood and the resistance of blood corpuscles was increased.

The question of *neuro-recurrence* after the use of salvarsan is still *sub judice*. Formerly, strange to say, a good deal of prejudiced sentiment, instead of scientific impartiality, had been injected into the question. Enemies of salvarsan dwelt at full length on the facts, insisted on their frequency and blamed them directly on the drug. Friends of salvarsan blamed syphilis, blamed supposed errors in technique, insufficient dosage, etc.; in a word, all, except salvarsan; or, even, went as far as flatly denying the facts.

Unbiased observations seem to have settled the following points, which may provisionally be accepted: Salvarsan induces toxic symptoms in nerves, but only in a small minority of cases; a great majority of neuro-recurrences are inflammatory and non-toxic in character and are due to direct syphilitic processes; these syphilitic processes are sometimes very happily influenced by a new dose; sometimes they are not, but *no argument can be drawn* therefrom *against* the syphilitic nature of the lesion.

Considerable light has been shed on the question by the study of the cerebro-spinal fluid after injections of salvarsan. A neuro-recurrence, after all, is but a "meningitis with a reduced train of symptoms" (Lévy-Bing); they are akin, the degree of intensity excepted, to those meningeal reactions of the early secondary period which can be so activated by salvarsan that epileptiform seizures, more rarely coma and death, may occur after a few days; akin also, the localization only differing, to those violent headaches so commonly observed in early syphilis.

Lévy-Bing, Durœux and Dogny, after seeing five cases of neuro-recurrences, wondered whether syphilitics treated exclusively by salvarsan did not all present, more or less, this same meningeal reaction which they had so clearly found in their cases of neuro-recurrences. They examined systematically the cerebro-spinal fluid of twenty syphilitics before and after the salvarsan treatment. In all cases after salvarsan treatment, they found an increased tension of the fluid and an increase in albumin; in all cases they found at least a slight hyperleu-

cocytosis; in seven cases where the meningeal reaction was detectable clinically, there was a real hypertension of the fluid, the Wassermann reaction was positive, and there was a marked lymphocytosis. The authors believe this to be due to the fact that the cerebro-spinal fluid is practically independent of the general circulation of the body and that drugs very seldom reach it; which fact they term *meningeal impermeability;* spirochætæ which have gained access to the cerebro-spinal fluid are there in almost absolute safety—hence neuro-recurrences, which are undoubtedly much more frequent with salvarsan than with mercury. This is all the more probable because salvarsan destroying, as it does, a greater number of spirochætæ in the parts of the nervous system which it reaches directly through the blood current, renovates, so to speak, the ground for a fresh attack by those spirochætæ which have found a safe refuge in the cerebro-spinal fluid.

This is not simply a hypothetical view. In sleeping sickness, certain arsenical compounds will rid the blood of trypanosomes, but not the cerebral fluid. In infectious diseases, antibodies exist in the blood, but are not found in the cerebro-spinal fluid. Hence the necessity of intraspinal injections in some diseases.

Arsenic is not found in the cerebro-spinal fluid after an intramuscular or subcutaneous injection of salvarsan; it is sometimes found after an intravenous infusion, as shown by Ravaut and Bloch and Sicard. Perhaps in the future, intraspinal injections of salvarsan will be resorted to in syphilitic lesions of the central nervous system.

Salvarsan does not sterilize syphilitics and it seems to favor the development of meningeal lesions, the later unfavorable possibilities of which are but too apparent. Consequently, if salvarsan possesses a very powerful action as regards the cicatrization of lesions and, thanks to this fact, can be *an excellent adjuvant to mercurial treatment,* it is dangerous, however, to rely on it alone.

These conclusions coming from men who have used salvarsan continuously since its appearance, who have given about 600 injections and are absolutely unprejudiced against it, ought to carry great weight. They are in line with the conclusions of others (Fox and Trimble, for instance), who say that salvarsan acts more quickly on the symptoms of syphilis, and mercury more deeply on the intimate processes of the disease itself, as evidenced by the Wassermann reaction. This would tend to "recall" the early over-enthusiastic decisions made about salvarsan. Time will tell, but a reversal of opinion, replacing mercury as the mainstay of anti-syphilitic treatment and making salvarsan a valuable adjuvant for the cicatrization of lesions, is neither impossible nor improbable.

(*To be continued*)

CORRESPONDENCE.

Letter from Dr. A. Ravogli.

THE SEVENTH INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOLOGY IN ROME, ITALY.

To the Editor:

On April 4, 1912, I reached the beautiful City of Florence, and my first thought was to pay a visit to my friend Celso Pellizzari, who is Professor of Dermatology and Syphilology in the Superior Institute of Sciences of that City. He had already sent invitations to all dermatologists who intended to attend the Seventh Congress to visit his Institution. I must say I was happy to find that by chance I could enjoy this privilege along with Prof. Balzer of Paris.

The wards, which are used for the patients suffering with diseases of the skin, are part of an old monastery, readapted for hospital purposes. They are not pretentious, but very modest and clean. The walls are white-washed and the floors are tiled. In each room there are from six to eight beds and only cases which require special treatment are admitted.

Prof. Pellizzari showed me several cases of universal and inveterate psoriasis of years' standing, which had resisted every known treatment for that disease. He is now treating them with inhalations and emanations of radium. He thinks that they are improving under this treatment. One case is worthy of being noted: The patient was covered with excoriations from head to foot, bullæ were still forming on thick, deeply infiltrated patches. The diagnosis was that of psoriasis bullosa. For many years Pellizzari had the patient under his treatment for psoriasis and at intervals, on the psoriatic patches, bullæ kept forming, which later resulted in excoriations. In a brief examination it looked to me as if it were a form of bullous dermatitis due to remedial agents, but he stated that no remedy had been used. Many beds were occupied by patients affected with erythroderma, severe eczema, mycosis fungoides, etc.

Many cases of lupus vulgaris of the face were remarkable for their gravity. One case of lupus vulgaris of the nose and lips in a young French woman, deserves attention on account of repeated outbreaks of lesions on the hands and feet. One case of lupus erythematosus diffusus of the face, with lesions on the mucous membranes, was accompanied by enormous swelling of the cervical glands. Several rooms contained boys, and others contained girls affected with tinea favosa. There is a school for these children in the hospital because the treatment lasts for a long time, and so they obtain some instruction. Joining the wards is the amphitheatre for the lectures. This had been filled with moulages, very well done, representing the rare cases, collected from the clinical material.

Connected with the hospital wards is an elegant modern new building, which is in contrast with the modesty of the hospital wards. This is the Instituto Fototherapico. The building was given by the government, and the equipment was presented by the Anti-tuberculosis League, and by the public-spirited citizens. It is the most complete institution of the kind, and would better deserve the name of Physical Therapeutic Institution. It has a complete photographic outfit for taking the pictures of the patients at the beginning of the treatment, and again when the patient is discharged, in order to be able to note the results obtained. It contains two large Finsen apparatuses each one of which can accommodate four patients at the same time, and two small Finsen-Reyn apparatuses for single patients. There is one apparatus of Kromayer's,

and one uviol, one Lortet-Genou, and the original Finsen solar apparatus. The Institution has one of the latest types of apparatus for Rœntgen rays, and another for high-frequency currents for fulguration. A complete outfit for the application of radium is at hand. The interesting point is the switching from one physical agent to another until recovery has been obtained. Up to the present year, 468 cases of lupus vulgaris and cutaneous tuberculosis have been successfully treated with phototherapeutic means. In the same way very good results have been obtained in 445 cases of ulcus rodens, epithelioma, carcinoma, etc., in 46 cases of granuloma and sarcoma of different kinds, in 104 cases of lupus erythematosus, and in 66 cases of angioma and lymphangioma.

One room is fitted for photocromotherapy. It has a strong reflector which sends the light through fluids of different colors. Pellizzari claims to have treated with very good results cases of pruritus of the genitals by the use of violet rays. Cases of weeping eczema and very obstinate cases of impetigo have been brought to recovery by exposing the affected parts to the red light. It seems that pyogenic bacteria are greatly modified by the action of the red light. From six to eight exposures of half an hour each have been sufficient to obtain a good result.

Two rooms are equipped for Rœntgen therapy. The apparatus is of the most recent type and the technique is the most recent known. A great many cases of tinea favosa have been treated with the X-ray with good results, but in some cases permanent alopecia has resulted. For this reason special attention has been devoted to estimating the quality and quantity of ray administered. Splendid results have been obtained in cases of rhinoscleroma and in leprosy of the nose and pharynx and to a certain extent in a case of boubas, where on account of the alterations of the posterior part of the nose, the applications of radium are difficult to make.

Another room is used for the high-frequency apparatus, and for the fulguration treatment. In the same room is the apparatus for the carbon-dioxyde snow, which is used only exceptionally, in those cases where the affection is so extended that the application of radium would be impossible.

The Institution possesses several radium apparatuses in the form of quadrangular and round plates, in cylindric tubes, and other tubes and bulbs of varying size and shape adaptable to superficial and deep cavities and various portions of the body. The affections which have responded to the applications of radium have been nævi, telangiectasia, verrucæ, scars and keloids. In rhinoscleroma, it has also given good results. It has, furthermore, been used in sarcoma and in tumors of an epithelial nature, especially of the lips, which are so difficult to cure by other means.

The Institution has recently come into possession of an apparatus for the radio-emanations. The patients are made to breathe and to utilize the emanations of radium through the skin, especially those suffering with rheumatic conditions, general psoriasis, erythroderma, chronic eczema, etc.

This visit to the Institution gave me a great pleasure as it permitted me to see the immense progress made in physicotherapy.

The International Congress of Dermatology was opened at 10 o'clock, Monday the 8th of April, by Prof. T. de Amicis, the President of the Congress. After thanking the delegates and the members of the Congress, he explained the reason for the postponement of the meeting; yet he thought that there had been nothing lost considering the progress of the science. He touched upon the great discovery of Ehrlich, and he was glad to think this Congress would collect the contributions of so many eminent men on their experience for the good of humanity. He expected, among other things, great benefits from the reports on physicotherapeutics. He thanked the officers of the Congress, and the Foreign

Secretaries. The Vice-mayor of Rome delivered an address of welcome, as did also the Minister of Public Instruction.

Then the Foreign Secretaries were called upon to speak for their respective countries; Gaucher replied for France, Malcolm Morris for England, Wolff for Germany, Mello Breyner for Portugal, while I had the pleasure and honor of representing the United States.

After these preliminaries, the real work of the Congress began. Prof. Verrotti, of Naples, read an important contribution on the erythematous and erysipelatous eruptions in pellagra. This elicited an interesting discussion concerning this disease from the ætiological point of view. The discussion was interesting, particularly on account of the many patients from the Roman Campagna affected with pellagra, these cases having been exhibited at the clinical demonstrations. Bertarelli and Fiocco exhibited four cases of typical pellagra from the Alto Milanese, where the disease is endemic and where the nutrition of the inhabitants consists exclusively of corn meal (polenta). Together with the skin eruptions there were diarrhœa and nervous symptoms. It was surprising to see little boys and girls two or three years old affected with the disease in the same way as the adults.

It would be impossible to report all the contributions which were read in so important a meeting, so I will only mention an interesting paper read by Prof. Majocchi on the granuloma tricophyticum, which he considers to be the only one among many fungi capable of causing vegetating lesions. The same ground was covered by Mazza, Bosellini, Vignolo-Lutati and Cicero, who compared the organisms found in European countries, and those found in Mexico, Colombo, Ceylon, etc.

Many articles on tuberculides followed, and this subject was well covered by Petrini-Galatz, Gougerot and Bosellini. The most remarkable article was that read by J. Nicolas, of Lyons, on coincidence of tuberculosis and syphilis in the late period of the latter disease. He admirably demonstrated how often tuberculosis developed in syphilitic ulcers. I then had the pleasure of reading a paper on the influence of syphilis upon tuberculosis and tuberculosis upon syphilis. The question of tuberculin as a diagnostic means in tertiary syphilitic affections was brought up by Buzzi of Turin; also by Nicolas and Favre of Lyons. Papers on lupus erythematosus were read by Arndt, Hoffmann, Verrotti, etc., but with nothing new on this subject. In reference to lupus vulgaris, some conclusions of Prof. von Petersen are worthy of consideration. He finds that there is not any proportional ratio between lupus and pulmonary tuberculosis. Lupus is more frequent in the villages than in the cities, and where herds of cattle are raised, it is more frequent than elsewhere. Lupus vulgaris seems to be the result of the inoculation of the bovine type of the bacillus.

Second day. Clinical demonstrations began promptly at 8 o'clock; cases were not numerous, but very rare and selected. Besides many cases of pellagra at different stages, two cases of boubas presented by Prof. Pellizzari, attracted attention. One of these patients had had the initial granuloma of boubas appear on the left side of the neck fifteen years ago while working in Brazil. The interior of the nose is at present nearly destroyed, the uvula is gone and the palate is studded with characteristic granulomata of the boubas; the larynx is also affected with the production of a peculiar, deep metallic voice.

One case of peculiar tumors of the wrists, face, neck and shoulders, somewhat red in color, and slightly movable, deep-seated and imbedded in the skin was interesting from the diagnostic point. The microscopic examination did not reveal any sarcomatous structure, and for this reason the case was regarded by Pellizzari as a multiple myomatosis of the skin. Several cases of granuloma fungoides at different periods of development were of some diagnostic import-

ance. One case of epidermolysis bullosa in a girl of 17, lasting 15 years, was likewise worthy of mention. A case of granuloma annulare of the face and of the temporal region attracted attention, especially because it was associated with large patches of circumscribed scleroderma of the body. The ring on the face was clearly and decidedly traced, with hard, elevated edges and with thin, slightly sclerotic, whitish skin in the centre. It extended from the left temporal region, covered the cheek of the same side and reached down to the neck.

Two typical cases of porokeratosis Mibelli were found to be interesting. Small rings with hard, thick, granular edges were on the fingers. These edges consisted of small, slightly elevated nodules formed by a keratosic condition in the openings of the glands of the skin. The skin within the ring was white, sclerotic and hard. It seemed to be hereditary because several members of the same family were affected. It begins early in life, and never disappears. It seems to be associated with the neuroses, and is to be referred to the class of nævi.

A large series of patients with lupus, epithelioma, xanthelasma, tuberculosis verrucosa, angiomata, etc., apparently cured, were exhibited by Prof. Pellizzari. They had been treated in his Phototherapeutic Institute in Florence. Each one had his or her picture in the hand, to show how they were when they began treatment, to be compared with their present condition. It was a very eloquent demonstration of the power of physicotherapy. This subject was the theme for general discussion, under the title: "The results of physicotherapy in cutaneous diseases."

Pellizzari gave his report (previously mentioned) showing the results he had obtained. He emphasized the necessity of knowing the effect of the X-ray and radium upon the different tissues of the organism. Small amounts can increase the vitality of the organic cell and hasten the progressive changes, while large doses produce degeneration, necrosis and resorption. It is claimed that the X-ray and radium have an elective action on diseased tissues. Forchhammer, of Copenhagen, read a paper on treatment with the Finsen light. He showed that in the most difficult and persistent cases of lupus vulgaris there can be obtained a perfect recovery by this means. He praised the light treatment not only for lupus vulgaris, but also for lupus erythematosus, nævus vascularis and alopecia areata. Prof. Schiff showed what can be obtained with radium applications, and pleaded that it be made a requirement that every dermatological institution be furnished with physicotherapeutic apparatus. Quite interesting and encouraging were the statements of Malcolm Morris who, by the combination of radium and X-ray has obtained good results in the treatment of rodent ulcer and Paget's disease. Some statements were given by Wickham, Breda, Pini and Lawrence who, especially with radium, had obtained good results in the treatment of angioma, nævus, keloid, lupus vulgaris, lupus erythematosus and lepra. This closed the important general discussion on physicotherapy.

The next subject for general discussion was the treatment of syphilis. This was to embrace the influence on the treatment of syphilis, brought about by the new ætiologic, diagnostic and experimental researches, and on the possibility of immunization and of a radical or abortive cure of the infection. When the discussion opened Prof. Neisser was not present on account of illness and the President sent a telegram with best wishes for a speedy recovery.

Prof. Neisser's report began with the statement that the finding of the spirochætæ, combined with a positive Wassermann, even without clear clinical symptoms, established as an incontestable fact that syphilitic infection had taken place. It has been experimentally found that the spreading of the spirochætæ in the system takes place from the initial lesion. A perfect cure can be obtained when the treatment has been instituted early in the disease. It has not been posi-

tively determined if syphilis, after being cured, leaves true immunity. Animals and men when cured of syphilis can be reinfected. The second infection takes the same course as the first. When the organism is under the influence of constitutional syphilis, especially in the first year, the skin shows an absolute condition of non-receptivity of a new syphilitic inoculation. Yet it seems that with material very rich in spirochætæ, the non-receptivity can be overcome and a local superinfection produced. Before syphilis has become constitutional, in the first week following the infection, new inoculations can take place either from the patient's virus, or from other individuals. In late syphilis, when the disease is nearly well, some regions of the body are no longer under the influence of constitutional syphilis and new reinfections may take place. The form of lesion following a superinfection is greatly influenced by the condition of the tissues and by the period of the first primary infection.

So far, success has not attended the attempt to find, experimentally, a method of active or passive immunization—a serotherapy for syphilis. It has to be treated either by preventing the spreading of the spirochætæ, or abortively by beginning treatment very soon after infection. Sero-diagnosis was found to be of considerable service in the intelligent treatment of the disease. Energetic treatment with both salvarsan and mercury appeared to be in general favor. Antimony was also mentioned as a therapeutic possibility. Although a great deal has been accomplished with the *therapia sterilisans magna,* yet we must not renounce a chronic treatment of syphilis. It is possible that the spirochætæ are in the form of spores, or are encapsulated, and cannot be reached by the arsenic, and in these cases mercury and iodides will help to bring about recovery.

Hallopeau maintained the possibility of an abortive treatment of syphilis by hectine which is injected in a dose of 20 centigrams, the treatment being repeated every thirty days. Malinowski and Isaac stated that in many cases salvarsan may effect a complete cure. In 72 cases Isaac found that with only one injection of salvarsan in the beginning of the disease, after a period of four weeks the Wassermann test was weakly positive, and later became entirely negative. Freund stated that salvarsan hypodermatically administered was of no value.

Ledermann spoke on the Wassermann reaction in diseases of the heart. He referred to 39 patients suffering with insufficiency of the aortic valves, stenosis and insufficiency of the mitral valve; in 13 cases the Wassermann was positive and in 16 it was negative. Watraszewski was strongly in favor of inunctions in the treatment of syphilis. He thought the Wassermann was influenced by this, more than by any other method. Hecht spoke on the combination of salvarsan and calomel injections. In 8 cases he had excised the initial lesions and then gave an intravenous injection of salvarsan and no symptoms followed. In 33 cases of secondary syphilis he gave one salvarsan injection followed by six calomel injections; in 25 cases he did not see any symptoms. In other instances he gave 2 salvarsan injections and diminished the amount of calomel, while in the remaining cases, 3 salvarsan injections without calomel were administered. In these he had relapses after five months with positive Wassermann reactions. Ehlers speaks very highly of the treatment of syphilis with large doses of benzoate of mercury, which method was seriously objected to by Milian.

Mantegazza showed a series of moulages illustrating syphilitic destructive ulcerations, which were cured, or at least greatly improved, by the injection of salvarsan. He maintains that the best results from salvarsan are in severe manifestations of syphilis and patients who cannot tolerate mercury. De Mello Breyner was of the same opinion. Hoffmann considers salvarsan a specific remedy in syphilis, but he does not regard it as an absolute cure; he has seen many relapses. Scholtz spoke very enthusiastically on the results obtained with

salvarsan while Rosenthal was still somewhat doubtful. Nobl claims that the best cases to be treated with salvarsan are those of the initial period. At this time the treatment may be abortive. He does not believe that secondary or tertiary syphilis can be cured. Oppenheim, in 200 cases treated with salvarsan alone, has seen 90 relapses, but when salvarsan has been given in combination with mercury, relapses have been very few.

Finger said that the oscillations in the degree of virulence of the syphilitic virus is untenable, and to-day we must admit that the virulence of syphilitic virus is a fixed factor, and that the variations in the severity of symptoms is dependent on the disposition of the infected organism. All the experiments to attenuate the strength of the virus and also the attempts at immunity through vaccination, have failed. The old views of immunity or receptivity for syphilis have no value. The receptivity, however, of different organs is modified in accordance with the locality and the period of the disease. It seems, also, that the quantity of the virus has a great influence. Every organ has a different degree of receptivity, and some may contain virus without showing any effect, which constitutes the latency of the disease. From the standpoint of the receptivity, the organs can be divided into three groups: (1) those which react to the virus locally applied or brought by the circulation. (2) Those which may contain virus without showing any manifestation. (3) Those in which the virus does not remain, such as the muscles, liver, etc. On the combination of the organs of different degree of receptivity and on the treatment, depend the variations in the course of syphilis. In man it may occur that the skin has a very slight degree of receptivity for the virus brought by the blood vessels, so much so that no cutaneous lesions appear, while other organs show increased receptivity, leading to early paralysis, tabes, aortitis, etc. Hereditary lues in severe cases is really a blood disease, a true spirochæta septicæmia; but acquired syphilis is more a disease of the tissues, the blood only occasionally being invaded by the spirochætæ. The old saying that syphilitic patients have an absolute immunity which lasts from the initial lesion throughout their life, has proved wrong. At the time of the first incubation period, the immunizing power is very little and a superinfection will produce typical lesions. Such lesions are less likely to occur during the second incubation period. In the secondary period of the disease a superinfection usually produces only papules, but in some instances a typical sclerosis may occur. In the tertiary period a superinfection produces lesions similar or identical to the gumma. In consequence the syphilitic patient cannot be considered immune at any time. The possibility of a true reinfection is, therefore, beyond doubt. A reinfection may occur a few weeks, a few months, a few years, or many years after the original infection. There are cases of syphilitic infections which take their spontaneous course without treatment, as occurs in women, who having been infected by their husbands, have suffered miscarriages, given birth to diseased children, and yet have never shown manifestations of the disease, though at a late period they may show an ulcerated gumma, or other late specific manifestation. In a general way, however, it may be said that the gravity of the syphilitic manifestations is in inverse ratio to the energy of the treatment. Finger favors the chronic intermittent treatment of syphilis. He doubts the direct action of mercury, iodide and arsenic, but thinks that the drugs affect the organisms indirectly by a process similar to Ehrlich's side-chain theory.

In reference to the Wassermann reaction, it may become positive six weeks after the infection increasing in intensity at the time of the roseola. In the first three or four years it remains positive, oscillating in its intensity, weaker in the latent period and more perceptible at the time of recrudescence. During a relapse the Wassermann is usually positive, but in some cases of lues maligna it

may be negative in spite of severe clinical symptoms. After four years, if the disease is latent, we may see two groups of cases: One in which there are no symptoms and a negative Wassermann; the other also without symptoms but where the Wassermann is positive and after treatment changes to negative. Whether these cases are really cured or not we cannot as yet establish, since it is possible that after some years we may see some distressing symptoms of a tertiary nature. The best that can be done is to watch the reaction over a long period of time. In conclusion Finger claims that an abortive treatment is not to be found in salvarsan alone, but in the combination with mercury.

Prof. Milian of Paris considered an abortive treatment as being a possibility. He favors Hallopeau's method of injecting hectine around the initial lesion followed by injections of a soluble mercurial salt. He also thinks that four intravenous infusions of salvarsan will materially shorten the course of the disease.

The question of syphilis in the rabbit was treated by E. Hoffmann and by Mario Truffi. From their experiments it appears that a true immunization against syphilis cannot be obtained, nor a positive cure, but that arsenic and mercury are capable of stopping the progress of the disease. Buzzi spoke on the alterations produced by salvarsan on the heart and on the blood vessels, which he considered only of a transitory nature. In reference to the bad consequences alleged to have followed the injection of salvarsan, Hecht remarked that in one patient an epileptic fit had been considered the result of the remedy, but he found that the individual had been an epileptic for nine years.

E. Hoffmann announced that he had succeeded in obtaining a pure culture of the Spirochæta pallida.

An interesting discussion then took place on the possible errors in performing the Wassermann test. Klausner remarked that in a normal serum the presence of globulin may simulate a positive Wassermann. In cases of cutaneous eruptions the lipoids being increased are taken up in great quantity by the ether and cause a precipitation of globulin, giving the idea of a positive Wassermann. An increase of lipoids and lecithin may give a precipitation in tuberculosis with a positive Wassermann. Hecht remarked that the use of antigen in watery solution is much more reliable than that obtained in ether. Müller spoke of the false Wassermann reactions, and he believed them to be due to the use of poor antigens. He praises the watery extract of syphilitic livers, but when difficult to obtain the watery extract from the heart can be used in the same way.

The question of the mycoses was the subject of the final general discussion. De Beurmann spoke on the growing frequency and on the multiplicity of the mycoses. He dwelt more especially on sporotrichosis. With lantern slides he showed the clinical forms produced by the sporotrichum.

I then had the pleasure of speaking upon the subject of blastomycosis and with a series of lantern slides, showed the appearance of the blastomyces. I had slides, also, of a case of dermatitis coccidioides, pointing out the difference between the two forms clinically and mycologically. Splendore followed with a paper on a form of blastomycosis which affects the mucosa of the mouth, and extends to the throat and pharynx. Vignolo-Lutati spoke on the development of sporotrichosis. Pasini referred to many observations and studies on some suspicious forms, and he concluded by saying that in Italy he had never seen a positive case of sporotrichosis.

Radaeli showed a peculiar fungus which he thought to be the cause of some chronic ulcerative forms of skin affections. Splendore mentioned some forms of Leishmaniosis, especially a type localized to the mucous membranes of the nose and throat. He thinks that the microörganism is one resembling that of the

Oriental sore, only it has much longer flagella. He thinks that cases of boubas of Brazil can be referred to Leishmaniosis.

E. Hoffmann gave a very interesting demonstration with lantern slides on the subject of multiple benign cystic epithelioma.

Dr. Hazen, of Washington, D. C., read a paper on the ætiology of pemphigus foliaceus, dwelling mostly on bacteriology, having found the bacillus pyocyaneus in the vesicles, in the urine and in the blood. He also touched upon animal experimentation.

Charles M. Harpster, of Toledo, Ohio, reported a case of hygroma of the testicle showing the pathological specimen.

Interesting remarks were made by Majocchi on annular telangiectasic purpura, which was followed by Picardi on erythema elevatum diutinum. This gave origin to an interesting discussion between Kreibich and Matzenauer on the origin of the erythemata.

The congress closed with a recommendation by Prof. Thibierge to establish an International Committee for the study of the problems concerning dermatology and the social plague.

The social side of the Congress could not have been better: an informal soirée in the Castle St. Angelo preceded the meeting. The Mayor of Rome sent an invitation to visit the Museum of the Capital and the Tabularium. Splendid dinners in the best hotels were tendered by the Italian colleagues. On the last day the members were invited to visit the excavations of Ostia and Tivoli and the ruins of the temple of Vulcan.

The Seventh International Congress has been a great success scientifically and socially, and Prof. de Amicis, the President, and all the Italian dermatologists deserve to be highly praised for this success.

The next International Congress of Dermatology will be in Copenhagen in 1915. Prof. Pontoppidan was elected President.

A. Ravogli.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(Jan. 1912, ci, No. 1, *continued*).

Abstracted by UDO J. WILE, M.D.

A Case of Vesico-Pustular Pyamid. (Merk). JAMES STRANDBERG, p. 83.

The name "pyamid" was suggested by Merk for all the cutaneous metastases of circulating pyæmic organisms, such metastases having previously been known in the literature under a variety of names. The case report herein described is that of a woman of 41 years who, except for a dysentery of some months chronicity, had previously been in good general health. The present illness began with fever and malaise, and the appearance in different parts of the body of an eruption. The latter occurred in two different forms: (1) superficial vesico-pustules, which after discharging their hæmorrhagic, purulent contents, gave rise to necrotic ulcers; (2) diffuse, red, firm infiltrations, some slightly hæmorrhagic in the centres. These either underwent complete absorption, or gave rise to vesico-pustules surrounded by a bluish-red, infiltrated wall. Cultures made from the lesions and from the blood stream showed in each case a pure culture of Staphylococcus albus. The patient after running a febrile course, attended with slight renal symptoms, ultimately made a complete recovery. Strandberg regards the case as a septic pyæmia, probably finding its starting point in the chronic dysentery, and giving rise to metastases in the skin.

The Wassermann Reaction in Congenital Syphilis. OLUF THOMSEN and HARALD BOAS, p. 91.

This article is a study dependent upon the investigation of 127 mothers and their new-born infants. In the mothers, the reactions were taken 24 hours before, or within 48 hours after labor. The reactions could not be determined in 39 of the infants owing to their macerated condition at birth. In the others, the blood was taken from the umbilical cord at the time it was cut, and all the children were under careful observation from six months to a year. The results of the authors' investigation are extremely interesting and valuable, as may be seen from the following conclusions:

1. When the blood of syphilitic mothers is negative, the children are more likely to be born and remain healthy than when the reaction of the mothers is positive. The absence of a positive reaction in mothers is only of prognostic value if there has been no recent anti-syphilitic treatment.

2. Infants who show signs of syphilis at a longer or shorter period after birth, do not always show a positive reaction at birth, but are constantly positive as soon as the disease becomes manifest or shortly before.

3. In isolated cases the children may be positive at birth, and never show any manifestations of syphilis later; in such instances the reaction disappears shortly after birth. Its early presence is probably dependent on the transmission from the mother of the reactive substances.

4. Syphilitic changes, as demonstrated microscopically after birth, may occur in the umbilical cord and in the placenta, in isolated instances in which the blood taken from the cord at birth shows a negative reaction. The Wassermann reaction on the blood of new-born infants, therefore, should always be supplemented by the examination for syphilis of the cord and placenta.

5. The amount of reactive substances, and the variability of the occurrence of a positive reaction in latent syphilitic, new-born infants, is probably dependent upon the time in the pregnancy at which the fœtus is infected.

6. Children and older individuals with various manifestations of congenital syphilis always show a positive reaction.

7. The amount of the reacting substance and its resistance to mercury is greater in the case of congenital syphilis than in acquired syphilis.

8. The mothers of syphilitic infants are always themselves syphilitic.

The Local Treatment of Inflammations of the Upper Layers of the Skin. Ludwig Török, p. 117.

In this paper Prof. Török attempts to show that if cutaneous changes are viewed from an anatomical and pathological standpoint, as suggested by him in a monograph several years ago, generalized rules could be laid down for the treatment of various groups of dermatoses. The establishment of cutaneous therapy upon such a basis is rational, simpler than the present haphazard methods of treatment, and it would, moreover, establish firmly the indications of the various drugs and methods now in use.

The Osmotic Elimination ("Auslaugung") of the Contents of Intact Horny Cells. P. G. Unna and L. Merian, p. 131.

Unna and Merian present the results of microchemical experiments upon the forced osmosis of the horny-cell content by means of various chemical substances. For their cellular material they used the vernix caseosa. After removing the fat therefrom, by means of alcohol and ether, the vernix caseosa was treated in a small test tube by the addition of the various reagents, placed at body temperature in the thermostat. From such tubes, smears were made at intervals, stained and examined under the microscope. The chemical reagents used were ammonia, hydrochloric acid, acetic acid, sodium and potassium hydrate in varying solution strengths, water and a pepsin mixture. Many of these were used in combination also.

The results of the experiments are given in the following final conclusions:

1. The greater portion of the cell-content of the vernix cell may be dissolved out by means of a 10 per cent. solution of acetic acid, and forced through the intact cell membrane by after-treatment with distilled water. Particularly soluble under such circumstances are the albumoses.

2. Osmosis from within outward and from without inward through the horny cell membrane of the vernix cells is possible, and soluble albuminous substances may be diffused through the membrane.

3. The solubility and precipitation of keratin B and albumoses, by means of acids and alkalies are for the most part similar, although showing slight differences.

Circumscribed Dermato-Anæmias (Leukischæmia). Hans Vörner, p. 149.

Vörner in 1906, described a new entity, a circumscribed congenital anæmia of the skin, which disappeared under glass pressure, and which stood out more prominently when the neighboring skin was made red by rubbing. During the past year Brauer showed that circumscribed anæmic lesions could occur in other conditions than in nævi, and he described such lesions as an example of a rare syphilide, which he called "lues leuchischæmia." (*Jour. Cutan. Dis.*, Feb. 1912, xxx, No. 2, p. 114). In pursuing the study further, Vörner shows that lesions of the type of "nævus anæmicus" may occur in cases of erythema and dermatitis. He cites two cases, one of erythrasma, and one of dermatitis venenata, in both of which distinct anæmic areas occurring as halos in the surrounding inflammatory zones were striking features of the eruption. The author proposes for the original entity described by him, for the manifestation of syphilis described by Brauer, and for the herein described cases the name, "circumscribed dermato-anæmias."

Idiosyncrasy Following the Intravenous Injection of Salvarsan. Wechselmann, p. 155.

The symptoms of hypersusceptibility following injections of salvarsan have been for the most part mild and harmless. The most usual symptom has been the occurrence of a rash, macular or diffusely erythematous in character, and a slight degree of fever. Wechselmann gives the details of a number of cases in which phenomena of idiosyncrasy occurred, at times following the initial, at times the subsequent injections. The nature of these reactions in their relation to immunity is discussed at some length.

Radium and Malignant Cancer. Louis Wickham, p. 161.

This very illuminating article by Dr. Wickham is, owing to its length and detail, hardly suitable for abstracting. Dealing as it does with the technique of radium therapy and its application to the inoperable forms of malignant neoplasms, and embellished generously with case reports and photographs, the paper is well worth careful study in its entirety.

The Antiquity of Leprosy, Syphilis and Tuberculosis. D. Zambaco, p. 193.

This is an historical review of the antiquity of syphilis, leprosy and tuberculosis. The author leans to the belief that all three diseases existed in prebiblical times in Egypt, and that many of the Mosaic laws must have presupposed the knowledge of the existence of tuberculosis among the ancient Hebrews. The antiquity of leprosy, of course, needs no defense. The arguments that the author brings forth in support of his claims are interesting contributions to the history of medicine in general and to the three named infections in particular.

Concerning Late Secondary Recurrent Syphilides with Active Spirochætæ. Felix Pinkus, p. 213.

This article contains case histories of patients exhibiting active syphilides in which spirochætæ were demonstrable many years after the original infection.

The recurrences occurred from six and a half to twelve years after the initial infection. In not a few instances typical recurrences, in which spirochætæ were not looked for or found, are noted. In one case, twelve years after the first symptoms, a lesion resembling an initial sclerosis was noted, the Wassermann reaction was at the time negative, and the patient subsequently developed a rash, the picture thus being that of a reinfection. The purpose of the paper, according to the author, is to point out that the occurrence of active spirochæta containing lesions, so many years after the initial infection (30 years in one instance), is sufficiently frequent to cast a doubt as to the completeness of our modern methods of treatment.

(*To be continued*).

Dermatologische Wochenschrift.

(April 13, 1912, liv, No. 15).

Abstracted by Fred Wise, M.D.

Xanthoma Tuberosum Multiplex. Pollitzer and Wile, p. 421.

This article was published in full in the May issue of The Journal.

The Life-Outlook of Congenitally Luetic Children. Sprinz, Page 428 (*Concluded*).

In this third and last instalment, the author discusses the subject under the following captions: The future state of health of congenitally luetic children. The posterity of the hereditary syphilitic. The prognosis for live-born infants. The literature on the subject is appended with a list of 118 references.

(*Ibidem.* April 20, 1912, liv, No. 16).

Bromoderma. Jordan, p. 453.

Matzenauer classifies the various forms of bromide eruptions under three heads: bromide acne, bromide echthyma and bromide rupia. The cutaneous manifestations of the bromide eruptions are manifold and vary considerably, as a perusal of the literature of case reports will show. Among these are described cases with erythematous patches, in the midst of which lie lentil-sized vesicles filled with clear serum, or ruptured vesicles covered with small crusts; pea to pigeon's-egg sized, reddish-brown tumors, from which exudes a thin, purulent secretion; livid red, crusted, partly crescentic plaques, containing horny spicules, resting on a sieve-like epidermis; large, nodular, soft, painful efflorescences, with small, red lesions apparently springing from follicles, the larger ones copper-colored and secreting pus; aggregations of hemispherical tumors; fungoid masses with crusted papules; cases with vesicles, pustules and tumors, with brownish crusts; patches of red infiltrations with yellowish-brown crusts and areas of violet pigmentation.

The author reports two of his own cases. In one, an epileptic girl suffering with psoriasis, an injury to the leg was followed by a tuberose form of bromide eruption. In another girl, the skin presented numerous nodules and acne-like lesions, some of which were grouped, leaving reddish and brown pigmentations. In the latter case, a histological examination was made. The epidermis was thickened and showed hyperplastic papillæ and masses of round-cell infiltrations. In some of the hair follicles were seen circumscribed, oval-shaped, horny masses. The rete Malphigii showed a flattening of the papillary layer with round-

celled infiltrations scattered here and there. The subpapillary layer showed lymphoid cells, fibroblasts, red blood cells and masses of light-yellow pigment. The sebaceous glands were unchanged. The picture presented an inflammatory hyperæmia of the papillæ and of the subpapillary layer, with a hyperplasia of the papillary bodies and infiltrations in the epidermis. Microscopical examinations of the contents of pustules proved to be negative.

Cosmetic and Toilet Powders. Kapp, p. 458.

The rapidly increasing use of cosmetic powders induced the author to undertake a study of them, chiefly with reference to their mechanical action on the skin, their chemical action being already known. He also made bacteriological examinations of a number of powder boxes, powder puffs, etc., to determine the question of germ transmission by these agents. Of the vegetable class, he studied wheat-starch, rice-powder, potato-starch, arrow-root, almond paste, bean meal and violet powder. The mineral powders examined consisted of zinc oxide, aluminum silicate, magnesium silicate, magnesium carbonate, borax, precipitated calcium carbonate, calcium sulphuricum, silicum dioxide, bismuth subnitrate and barium sulphuricum.

The material was obtained from private patients, namely, the better class of female patients. Bacteriological examinations were made from sixty-seven specimens, employing culture tubes, Petri dishes and in some instances, animal inoculations. Five specimens were free of organisms; two showed colonies of Mucor mucedo; one contained a hyphomycete, unknown to the writer. In fifty-three specimens, the author found microörganisms of non-pathogenic nature; three samples contained Staphylococcus pyogenes aureus; one showed Unna's morococcus; one streptococcus; in one specimen, tubercle bacilli were demonstrated by means of animal inoculations.

The author concludes that the vegetable powders always injure the skin in a mechanical way, through the swelling of the powder granules in the cutaneous fat and moisture. Granules imbedded within the pores of the skin may produce the condition of chronically "enlarged pores." Relatively, the rice powder is the least harmful, having the least tendency to swell up. Mineral powders exert their evil effects on the skin through the mechanical irritation of the particles, some of the grains having sharp edges and spicules, as calcium sulphuricum and terra silicea. The least harmful mineral powders are zinc oxide, precipitated magnesium carbonate and magnesium silicate. The poisonous effects of some of the ingredients of cosmetic powders are so well known that the writer does not consider them in this paper. The results of the bacteriological examinations prove the possibility of the transmission of various diseases by means of powder puffs, etc. Kapp states that if powders must be used, they should always be applied to the skin by means of powder-blowers.

(*Ibidem.* April 27, 1912, liv, No. 17).

Concerning the Occurrence of Vascular Dilatations and Abnormal Cutaneous Reactions. F. Luithlen, p. 485.

Of the various changes which take place in the skin, following the production and the subsidence of Roentgen-ray dermatitis, the phenomenon of telangiectasia is of the greatest interest; these vascular dilatations may supervene months or even years after the irradiation, in skin which seems to be otherwise normal. As yet, this phenomenon has not been explained. The author made a study of a case in point, which he thinks may be useful in clearing up the question of the causes of telangiectatic lesions, appearing in the apparently healthy skin. A man of thirty-six, of neurotic disposition, afflicted with psoriasis, was the victim

of a sudden attack of urticaria, accompanied with severe asthma. Four years previously a localized patch of psoriasis on the left elbow was treated with the X-rays, it having withstood ordinary forms of treatment. The patch involuted, but in its place appeared a marked erythematous dermatitis which gradually disappeared, leaving the skin apparently in as normal condition as it was before the irradiation. The area of skin on the elbow was then free of psoriasis until the attack of urticaria supervened, when it became markedly swollen and reddened, to be followed, soon after, by several patches of psoriasis. After the inflammation had subsided, the entire area which had been exposed to the X-ray four years previously, presented a number of telangiectatic lesions, sharply limited to the irradiated surface of the skin.

The author discusses the possibility of an ætiological relationship between the telangiectasis and the attacks of urticaria and asthma; he quotes the case of Freund's: a woman, years after having received X-ray treatment developed telangiectatic lesions on apparently normal skin, during the early period of her pregnancy. No attempt has been made to explain this curious occurrence. In the author's case, toxic substances probably caused the urticaria and it may be assumed that the same toxines exerted their influence upon the superficial blood vessels. The patient suffered a temporary disturbance of the blood vessels of the entire cutaneous surface, with a permanent disturbance of that portion which had received X-ray treatment four years before. This is explained in the following manner: the Roentgen-rays produce changes in the blood vessels and may cause deep-seated pathological alterations in the structure of the skin; the susceptibility of the irradiated skin to external irritants is markedly increased, even after small doses of the ray; this may be seen in cases where chrysarobin has been applied to irradiated areas of skin, which may react with intensity, while the neighboring, non-rayed portions show only a mild reaction, or none at all. In the case of this patient, it may be assumed that the X-rays produced a lasting change in the blood vessels of an apparently normal area of skin, resulting in the telangiectases. The toxines present in the blood current during the attack of urticaria, causing only an ephemeral disturbance of the non-rayed parts of the skin, produced a permanent dilatation of that portion of the skin whose power of resistance had been weakened by the X-ray exposures to which it had been subjected.

Luithlen attempts to place the above-quoted case of Freund's in the same category. It is assumed that during pregnancy, aside from the changes in the circulation and the blood pressure which take place, certain toxic substances are present in the blood current; these toxines may exert an influence upon the blood vessels, analogous to the phenomena which accompany urticaria. It has been shown that the skin is hypersusceptible to the X-rays during menstruation, lactation and pregnancy, leading one to believe that changes in the sexual organs, in some way or other, increase the cutaneous susceptibility to the Roentgen rays. In conclusion the author states his belief that the variations in the reactions may be due to a number of different conditions, dependent upon the chemical constitution of the organism. Besides the disturbances of nutrition and assimilation, such as diabetes, gout, uric acid diathesis, autointoxication, etc., the rôle played by the internal secretions must be taken into account.

The Impracticability of "Endothelioma" as a Working-Hypothesis. J. Fick, p. 488.

The author has steadfastly maintained that the pathological condition designated "endothelioma" never had an existence. Upon analysis of the reported cases of so-called endothelioma, it would seem that none of them can justly be called pure endothelial growths (Fick, *Monatsh. f. prakt. Dermat.*, xlviii).

"Recently the tendency has been to designate as 'epithelioma' pathological pictures which are in every respect identical with those formerly diagnosed 'endothelioma.' Accepting 'endothelioma' as a working-hypothesis, what deductions do we draw from the examination of a given specimen? We find, in a tumor of doubtful identity, a number of fissures and hollow spaces, lined with a layer of flat cells. We assume that these are cells of the tumor-matrix; and, in accordance with the working-hypothesis, they are endothelial cells; confirmation of these assumptions can be found in the study of the normal histology and general pathology of the skin. In other words, there being nothing to contradict these assumptions, we adhere to the 'endothelium' working-hypothesis. Examining the specimen further, we find that, in addition to the spaces lined with a single layer of cells, other spaces are present, lined with double and treble cell-layers arranged in orderly strata and resulting in a formation resembling gland ducts. Such a formation must be reckoned with, in attempting to differentiate between an 'endothelioma' working-hypothesis and an 'angioma' working-hypothesis. It therefore becomes necessary to reconcile the 'endothelioma' working-hypothesis with the occurrence of tissue-spaces lined with two or more layers of endothelial cells. We assume, therefore, that in the normal body as well as in all pathological processes, there exists always, a single layer of endothelial cells; but, as we are here dealing with a *tumor* formation, we must expect digressions to occur in the endothelial formation. Such an assumption would properly lend itself to the working-hypothesis that endothelial cells in tumors will proliferate. To settle the question, we are compelled to say: the endothelium proliferates and results in a tissue-formation which we are compelled to designate as a two-or-more layered endothelium; otherwise, if this were not the case, then we would have to admit that the endothelial proliferation is of the ordinary type, namely, a single-layered, complete cell-stratum, or one which proliferates in such a manner, that each individual endothelial cell lies in contact with its neighboring connective tissue. But in our case, we see a regular *cell-stratification*. We are therefore confronted with the alternative of dropping our working-hypothesis, as it attempts to establish something which does not occur in any other pathological process, or, on the other hand, to maintain it, and to say: we have here discovered something which has no analogy in any other process, namely, a stratified endothelium. Let us decide to adhere to the endothelial working-hypothesis, assuming the hypothetical existence of a stratified endothelium. In order to properly discuss the practicability of our working-hypothesis with its relation to this phenomenon of stratified endothelium, it becomes necessary to call to our aid already existing conceptions of pathological changes; otherwise no one could be expected to take any stock in this newly-discovered, stratified endothelium. This phenomenon is such a novelty, that our critics would be justified in demanding, first of all, an explanation of the existence of the stratified endothelium, it being entirely dependent upon our endothelium working-hypothesis; whereas all other working-hypotheses, in relation to histology and pathology, speak against the existence of such an endothelium. This being granted, we either must give up the 'endothelial' working-hypothesis, or explain the stratified endothelium. We will attempt the latter, and offer three possibilities: (1) Direct metaplasia—the metamorphosis of endothelial cells into true epithelium. Everything speaks against such an assumption. (2) Differentiation and transformation; here again, no analogous process can be called to our aid; for where else do cells of the connective tissue become differentiated and transformed into epithelial cells? Our opponent would say, instead of dropping the endothelial hypothesis, it would be simpler to assume that either a sudden metaplasia or an enormous cell-differentiation and transformation may take place. But there is a way out: we would say, the endothelium remains

endothelium, but it proliferates in an unusual and unprecedented manner, so that it becomes impossible to differentiate it from proliferating epithelium. We admit that our endothelium hypothesis leads us to an exposition of a stratified endothelium without the support of an analogy, but it does still more: it explains all the other changes in the tumor so well, that we can rely upon the future to clear up the mystery of the epithelial-like stratified endothelium. But 'the future' has done no such thing. To the contrary: it developed that the adherence to the endothelium hypothesis resulted in the discovery of still more remarkable phenomena—the discovery of endothelial, gland-like formations, endothelial carcinoma, endothelial adenoma, the endothelial secreting cell, the endothelial horny pearl. Here again, we say, either the endothelium hypothesis must be forsaken, or analogies to these remarkable, unprecedented phenomena must be presented. As to analogies, they do not exist; hence we must give up the hypothesis. But in the meantime, it has become firmly fixed; it has become so dogmatic, that we will not forsake it altogether, but merely try to limit its applicability. We admit that an endothelial horny pearl, or an endothelial cholesteatoma is something of which we cannot conceive. We will try to limit ourselves to those cases in which we may call in the support of an analogy. Unfortunately, there are no such cases in existence. Hence, we again face the alternative of dropping the hypothesis, or offering an analogous, existing phenomenon—the same conditions prevailing as when we encountered the stratified endothelium. The question will be asked, are there no endothelial growths besides the ordinary angiomata? Only those tumors are true angiomata in which it can be shown that an endothelial cell proliferation actually takes place within them, and in a manner peculiar to that type of cell. Under all conditions, the endothelial cell will proliferate in a manner totally different from the epithelial cell, producing formations which cannot be confounded with epitheliomatous growths; all tumors even remotely resembling carcinoma or adenoma can be nothing but epitheliomatous. The endothelioma of the future will present a totally different picture from that of the present and of the past. An exception to this may occur in respect to one form of new growth—the sarcoma endotheliale of v. Hansemann. Hence it will be seen that, since the conception of endothelioma rests solely upon the hypothesis of a stratified endothelium which does not exist, by the same token, an endothelioma cannot exist. The endothelial working-hypothesis has been barren of results, as far as our knowledge of new-growth formation is concerned. As to the epithelial working-hypothesis, although it has not been productive of such remarkable discoveries as a secreting endothelial cell, it has at least confirmed matters of which we were formerly in doubt and is bound to lead to the solving of many problems, without the aid of any hypotheses."

The rest of this article is devoted to a polemical discussion of the various reported cases of endothelioma, the author pointing out, in vigorous language, the errors and the false premises of the reporters. He marvels at the circumstance that a hypothesis which, since the year 1869, has not had the support of a single clean-cut, recognized case of endothelioma, can still flourish.

(*Ibidem.* May 4, 1912, liv. No. 18).

The High Frequency and High-Tension Currents in the Treatment of Certain Skin-Diseases. A. Fontana, p. 517.

These currents were employed in the author's clinic since 1908, chiefly in the form of unipolar applications, with the following methods of administration: Effluve, in pruriginous dermatoses; brush electrode, in acne and rosacea; condensation electrode, in alopecia areata, lupus erythematosus, etc.; sparking, in

warts, condylomata acuminata, molluscum contagiosum, lupus vulgaris, lupus erytematosus, etc.; spark treatment according to Strebel, in lupus vulgaris, molluscum contagiosum, nævi, angiomata, etc. The MacIntyre electrode was used throughout. About one hundred patients received the treatment, their maladies being conveniently classified under the following headings: Soothing effect; in pruritus ani and vulvæ, lichen planus, eczema, lichen Vidal. Revulsive effect; in alopecia areata, psoriasis. Decongestive effect; in acne vulgaris, rosacea. Destructive effect; in verrucæ, condyloma acuminatum, molluscum contagiosum, angiomata, pigmented nævi, lupus vulgaris. Reparative effect, in atonic ulcers, esthiomène, lupus erythematosus. Good results were obtained from the soothing effluve applications in cases of chronic pruritus ani and vulvæ, in lichen planus, in some cases of chronic eczema and in lichen Vidal. The results in this class of diseases were not uniformly favorable, some of the patients showing no improvement whatever and discontinuing the treatment of their own accord.

The condensation spark, used for its revulsive effect, presents a convenient form of therapy, and it is painless and may be repeatedly applied, without injuring the skin. Excellent results were obtained with this form of treatment in alopecia areata, especially in obstinate cases of long standing. In one case of alopecia areata and in two cases of psoriasis, no beneficial effects were observed after prolonged treatment. The high-frequency current used for its decongestive effect has many supporters for the treatment of the various forms of acne and of rosacea. Oudin employs first the effluve, followed by the condensation electrode; Strebel and MacKee recommend sparking the individual pustules, while others think well of the combined X-ray and high-frequency current treatment. Of the fourteen cases of acne and rosacea which the author treated by means of the high-frequency currents, all showed a temporary improvement, but not one was cured (*To be concluded*).

(*Ibidem.* May 11, 1912, liv, No. 19).

Contribution to the Ætiology of Phagadænic Genital Ulcers. N. Tuerk, p. 549.

A number of instances of the various types of genital ulcers are cited from the literature, showing the difficulty of deciding the causative factors of these lesions. The loss of substance in these ulcers may be due to hospital gangræne, to ulcus venereum, to a balanitis, to breaking down of tissue due to trophic disturbances or to a secondary infection, and lastly, to a spontaneous idiopathic affection. Most dermatologists fail to take cognizance of the idiopathic type of genital lesion. In differentiating the other types, attention is called to several peculiarities occurring in hospital gangræne: the base and edge of the ulcer are deep red and studded with small hæmorrhages; and there is an absence of secretion; in ulcus venereum and in balanitis errosiva there is a vivid, red inflammation of the base with a scalloped and undermined edge, the ulcer secreting a thin, foul-smelling pus. Histologically, the first group shows an inflammatory process accompanied by the production of a fibrinous exudate with the occurrence of an early coagulation-necrosis; the second group, on the other hand, shows a round-cell infiltration with the production of a sero-purulent secretion. At the present time, no specific organism can be identified with the causation of ulcus gangrænosum, the probability being that the lesions are caused by infection with a number of different microorganisms. Examples are seen in cases of "gangræne foudroyante," gasphlegmon, nosocomial gangræne, etc. Polymorphous gangrænous ulcers have been described, in which the causative factors were found to have been the tubercle bacillus, the diphtheria bacillus and the bacillus of Plaut-Vincent angina (*To be concluded*).

The High-Frequency and High-Potential Currents in the Treatment of Certain Skin-Diseases. A. Fontana, p. 554 (*Concluded*).

Destructive action of the high-frequency current was found to be of benefit in verrucæ, but no success was obtained in the treatment of venereal vegetations, either by the use of the effluve, the condensation electrode or by fulguration. In molluscum contagiosum the results were good; in angioma and pigmented nævus they were poor; attempts to bring about a cure of patches of lupus vulgaris proved failures in the author's hands. He employed the "reparative" action of the high-frequency current in nine cases of lupus erythematosus, of which but one was cured, after two years' treatment; the other cases were somewhat improved; Strebel's sparking method was employed in these cases. Those who are interested in the subject will find a complete table of references at the end of the article.

(*Ibidem.* May 18, 1912, liv, No. 20).

A Remarkable Case of Menstrual Dermatosis. K. Ruehl, p. 581.

In a young married woman, the author observed that during her menstrual period, the gold ornaments which the patient wore would cause a dark discoloration of the underlying skin. The phenomenon manifested itself only during the menses; Ruehl convinced himself that no alloy, such as copper, had anything to do with this pigmentation; nor did perspiration play a rôle in its occurrence. Four cases of this kind are cited in detail; in all the discoloration of the skin began only after marriage; the discoloration was due to a deposit which could be washed off with soap and water, leaving the skin normal. The deposit began in the premenstrual period and persisted until the cessation of the menses. The author believes that certain chemical substances are secreted by the skin and that these exert a reaction upon the gold ornaments as they rub against the skin, forming a thin, black deposit underneath. In support of this theory, many authors are quoted, giving proofs of the occurrence of intoxication phenomena during the premenstrual and menstrual periods. Poisons are eliminated, not only by the menstrual blood, but also by the salivary and the gastric glands, the kidneys, etc., and by the skin. The same phenomenon was observed in connection with platinum ornaments.

The Spontaneous Disappearance of Juvenile or Hard Warts, in the Course of Treatment. E. Galewsky, p. 589.

Instances have been reported by several authors, in which the removal or merely the treatment of these warts on one hand, would be followed by the spontaneous disappearance of the lesions on the other hand of the patient. This phenomenon has occurred in cases treated by curettage, radium, X-rays, etc. In some cases of multiple warts of the dorsum of the hand, the removal of only a few of the largest ones resulted in the disappearance of the neighboring warts. They often may disappear after an acute infection, and the author cites a case of his own, in which they vanished after a salvarsan injection. Galewsky reports a case treated by electrolysis on one hand, followed by the complete disappearance of the warts on the untreated hand. In another case, the same thing occurred after electrolysis, while previous X-ray treatment produced no results, on either hand.

Waelsch attempts to explain this phenomenon as follows: The removal of the warts with the subsequent cauterization with silver nitrate, produces considerable inflammatory irritation; it is possible that this influences the skin of the opposite hand, as a vasomotor reflex affecting a symmetrical cutaneous area, causing sufficient irritation to bring about the involution of the warts on the untreated hand.

Contribution to the Ætiology of Phagadænic Genital Ulcers. N. Tuerk, p. 591 (*Concluded*).

The tuberculous type of ulcer may be the result of autoinoculation, or infection of the healthy skin. The latter was frequently seen to occur after ritual circumcision; exogenous infection of the female genitals has been reported, following tuberculosis of the anal region. In the male the site of predilection is usually found to be the parts exposed to traumatism during coitus. In the female, these ulcers are usually found on the labia and in the vagina. These phagadænic ulcers in the female often present exceedingly difficult problems in their differentiation from syphilis, epithelioma and other lesions of ulcerating type. Four such instances are described in detail, showing the difficulty of a clinical diagnosis in the male. In these, lesions which gave the appearance of phagadænic ulcers, later proved to be the initial lesions of syphilis. In none of these was it possible to demonstrate the presence of either the spirochæta pallida or the bacillus of Ducrey. The author believes that neither of these organisms play any rôle in the causation of the destructive process in these ulcers. Examples of phagadænic ulcerations of the genitals are common in the tropics and are undoubtedly infected by the bites of insects. A similar instance is recited by Tuerk, occurring in his own clinic in Vienna. In conclusion, he states his belief that some forms of phagadænic genital ulcers are frequently encountered, in which the causative microörganisms have not as yet been discovered.

Japanische Zeitschrift für Dermatologie und Urologie.

(Feb. 1912, xii, No. 2).

Abstracted by Fred Wise, M.D.

Concerning Angiofibroma. G. Maki, p. 8.

A relatively rare case of angiomatous mixed tumors, situated on the right leg and foot of a thirteen-year-old boy, applied for relief at the University Clinic at Tokyo. Clinically, the growths had existed four years, increasing in numbers and size. They were pea to plum-sized, partly fused together, soft, elastic and somewhat compressible. The skin over the tumors was normal appearing in some places, in others bluish and dark-brown in color. The surface of the tumors presented a partly smooth and partly verrucous appearance. Several pieces were excised for histological examination, most of them presenting the typical picture of angiofibroma cavernosum; one of the tumors with a verrucous surface appeared to resemble more closely the angiokeratoma of Mibelli. Areas of myxomatous tissue were noted, surrounding small, subcutaneous, vascular tumors. Pathologically, the author concludes that the subcutaneous fat-tissue is replaced by new-formed connective tissue, the latter having its origin probably from the walls of the newly formed capillaries.

Experiments in the Transmission of Leprosy Among Mammals. I. Monobe, p. 9.

The author inoculated an emulsion derived from leprous nodules, into the abdominal cavities of guinea pigs. After a few months, the animals were killed and the viscera examined. Guinea pig No. 1: Weight 750 gm. Amount of emulsion injected intraperitoneally, 1.0. Elapsed time from the inoculation to the autopsy, 55 days. Histological findings: The liver showed numerous, small, sharply circumscribed deposits, located chiefly in the adventitia of small veins

or in the acini themselves and consisting of young connective tissue cells, some of which contained small numbers of lepra bacilli. From seven to forty bacilli were found in one deposit. Isolated bacilli were found in apparently normal parts of the organ. Guinea pig No. 2: weight, 730 gm. Amount of emulsion, 1.0. Autopsy on the 70th day. Histological findings the same as in guinea pig No. 1. The omentum shows a moderate number of miliary granulomata, the centres of which are necrotic and surrounded by numerous connective tissue cells, containing lepra bacilli. The bacilli are also found in the central, necrotic portions of the granuloma. Guinea pig No. 3: weight 165 gm. Amount of emulsion, 0.5. At the time of the inoculation, an incision was made in one of the animal's ears. A month later, three ulcers appeared at this site, which healed with scar formation within two weeks. Two months after inoculation, examination of these lesions revealed the presence of small numbers of lepra bacilli enclosed within epithelioid cells, whereas other portions of the skin failed to reveal the presence of any bacilli.

The Philippine Journal of Science.

(Dec., 1911, vi, No. 6).

Abstracted by Harvey P. Towle, M.D.

The Occurrence in the Philippines of Associated Spirochætæ and Fusiform Bacilli in Ulcers of the Throat (Vincent's Angina), of the Mouth and of the Skin, and in Lesions of the Lungs. Weston P. Chamberlain.

Since Plaut in 1894 and Vincent in 1896 called attention to the association of a fusiform bacillus with a spirillum in ulcerative lesions of the throat, pharynx and mouth, many writers have not only confirmed their observations but have also demonstrated the symbiosis in various other lesions such as noma, hospital gangræne, syphilitic lesions, etc. Vincent, Smith and Peil, Bruce and Chamberlain have also found the fusiform bacillus and the spirillum in ulcerations of the skin. Recently Peters, of Cincinnati, found the organisms in a septic infection of the hand which followed an injury by the teeth of another person. Hultgen reported a similar case of hand infection where the patient had the nail-biting habit and the same organisms were found about the teeth.

The bacillus fusiformis varies in length from 3 to 15 microns. From the centre the bacillus tapers towards the ends which are sometimes blunt and sometimes sharp. The bacilli may be straight or slightly curved or occasionally, wavy. Frequently they are found in pairs, arranged end to end. They are non-motile and stain readily with carbol-fuchsin, Loeffler's methylene blue or Giemsa's stain, often showing beading.

The spirochætæ are longer than the bacilli, ranging from 15 to 50 microns in length and have from 3 to 5 undulations. They are usually very slender and in fresh preparations are extremely active. With the ordinary analine dyes they stain less intensely than the bacilli and occasionally present a beaded appearance. Attempts to cultivate these organisms have never been successful in Chamberlain's experience, although Weaver and Tunnicliff reported success on ascitic agar and Peters on Dorset's egg medium both under anærobic conditions.

Twenty-seven of the lesions tabulated by Chamberlain were apparently, though not beyond question, syphilitic. Two were primary cases, two tertiary, the remainder secondary. The organisms of Vincent were found in preponderating numbers in ten cases, including some in which the diagnosis of syphilis was beyond doubt, and in small numbers in one case.

Vincent believed that tropical ulcer was due to these organisms. Of 34 ulcers of the skin, Shattuck found spirochætæ in the exudate of 5, some resembling Spirochæta refringens, some seeming to be intermediate between that organism and the Treponema pallidum. Howard in Nyasaland, found the two organisms in nearly all foul-smelling, neglected ulcers. In 1911 Bruce demonstrated them in the punched-out lesions of "Zambesi ulcer." Chamberlain found them in large numbers in an ulcer of the foot of a Filipino.

Chamberlain concludes that "it is still an open question whether the associated fusiform bacilli and spirochætæ are ever causative of the multiforme lesions in which they are so often found to be present."

Bulletin of the Johns Hopkins Hospital.

(April, 1912, xxiii, No. 25).

Abstracted by Harvey P. Towle, M.D.

Tuberculosis in Infancy and Childhood. Henry Koplik.

Although this paper is intended primarily for the general practitioner, nevertheless it contains much which is of interest to the dermatologist who is quite as much concerned as the clinician with the discussion of the influence of age upon the manifestations of tuberculosis, the ætiology, the frequency and the clinical forms.

According to Koplik, tuberculosis takes on special phases and forms in infancy and childhood and the organism of the infant reacts to the tubercle bacillus in quite a different manner from that of the adult because of differences in the soils. The adult forms are distinctly peculiar and different clinically.

As regards a "disposition" to tuberculosis, he can not say that infants are any more predisposed to this disease than to measles or diphtheria. Nevertheless, their exposure to infection is greater than in adults because of their habits of life; crawling on the floors, indiscriminate handling by people, putting everything into their mouths, and the like.

Although it is now an accepted fact that the fœtus may be born tuberculous and harbor the bacilli, it is very unusual for manifestations of the disease to occur during the first three months of life. The incidence of active tuberculosis is less up to the second year than at any other period. From the second year onward, the percentage of tuberculous children increases steadily up to the fourteenth year, after which it decreases to the adult life. By some the period of the greatest incidence of infections is believed to be that from the fourth to the sixth year.

Formerly the mode of infection was thought to be practically always by aspiration. Recently, however, the theory that the bacilli may be introduced into the lymphatic system by way of the digestive tract has gained headway. This does not by any means refer especially to milk but to every method by which bacilli may be carried thither, such as infected toys, food, kissing, etc. Indeed, Koplik believes that infection by tuberculous milk is rare. The usual source is some person with tuberculosis.

Of interest to the dermatologist especially in connection with the occurrence of scrofulosis, is Koplik's statement that a very striking peculiarity of the pathologic anatomy of tuberculosis in infancy and childhood is the preponderating involvement of the lymph nodes and especially those of the lungs.

Discussing scrofulosis, Koplik refers with interest to the prominent pediatrists who still cling to the belief that all scrofulosis is not tuberculous, although admitting that it may become tuberculous. It is also interesting to note

Koplik's statement that "with recent advances in our methods of diagnosis, we are fast beginning to recognize that in the term scrofulosis there is a distinct clinical tuberculous entity." It is, according to Escherich, "a form of infantile tuberculosis which develops in the foundation of a lymphatic constitution." A "lymphatic constitution" is defined as a tendency from earliest infancy to a hyperplasia of adenoid tissue. Children with such lymphatic constitution show enlarged tonsils, adenoids, general lymphatic enlargement, hyperplasia of the mucous membranes throughout the body, an enlarged thymus, catarrh of the mucous membranes and, in many, cyclic albuminuria. There exists in them an especial vulnerability to tuberculous infection, hypersensitiveness to external trauma and the development of an allergie against minimal doses of tuberculotoxin. "We have as a result, the development of skin eruptions in the form of scrofulides or tuberculides and later, through the lymph and blood, the formation of localized tuberculous foci or generalized tuberculosis."

In enumerating the various clinical symptoms of scrofulosis, Kaposi states that there occur "manifestations on the skin in the form of lupoid eruptions, ecthyma, tuberculides and scrofulides." Theorizing as to the cause, he says that it may be the result of repeated infections with minimal amounts of tubercle bacilli so that there is developed an active immunity against rapid advance of the disease. In short, scrofulosis is the lymphatic form of tuberculosis.

Annales de médecine et chirurgie infantiles.

(April 1, 1912, xvi, No. 7).

Abstracted by Harvey P. Towle, M.D.

The Erythemas with Malign Syndrome in Infectious Diseases. Hutinel, p. 1.

Hutinel reports the case of a child of twelve who, in the course of typhoid fever, developed a scarlatiniform erythema. The child manifested the first symptoms of fever on the 29th day of January. On the 4th of February it was noted for the first time that there was an erythematous rash about the knees, elbows and buttocks in the form of large, red placards. At the same time the patient showed marked delirium, severe diarrhœa, vomiting and persistent fever. Prof. Hutinel considers this case to be one of those erythemas which appear oftentimes in the course of typhoid fever. He states that in 1890 he first called attention to these complications of typhoid and reported 36 cases in which the erythema appeared 13 times with 6 deaths.

He believes that in these grave cases there is a veritable syndrome characterized not only by the presence of an erythema but by violent vomiting, a "diarrhée verte" accompanied by more or less retraction of the abdomen, the facies of cholera or pseudo-peritonitis, a sudden lowering of the temperature such as is seen in hæmorrhage or perforation of the intestines and, in every case, by a profound asthenia with rapid decline. The rash is not pathognomonic of typhoid as he has also encountered this syndrome in diphtheria, scarlet fever, measles complicated by bronchial pneumonia, angina, in adenopathies and in the intestinal affections. Although its clinical characteristics are very sharply defined, the pathogenesis of this syndrome is not at all clear. In later observations he noted that while the character of the eruptions varied their seat was always the same; the knees, the backs of the feet, the elbows, the fingers, the dorsal aspects of the hands, the buttocks and especially upon the face. From these primary seats it may later spread over other parts.

When discrete it is simply erythematous; as if the part had been rubbed. Most often it is morbilliforme, the eruption consisting of discrete and confluent,

red macules sharply defined. The further from the centre of the original seat they occur the smaller the lesions. When the eruption is scarlatiniform it is distinguished from scarlet fever by its less pronounced color and the lesser sharpness, and by its location over articulations. Frequently the two types are associated. Not infrequently the erythema occurs in the iris form and in cocardes and even with vesicles, bullæ and pustules. In the grave cases, the erythematous lesions often become purpuric. Generally there is no itching. The eruption lasts from two to seven days and is followed by a desquamation less furfuraceous than measles and smaller than that of scarlatina. The eruption is not essentially one of the elements of the syndrome. It often appears alone and without combining grave phenomena. It is in fact benign. Mucous membranes are generally intact. The lips are usually fissured and ulcerated and about the nose there develop, very frequently, necrotic ulcerations which are often virulent. The chief characteristic of these cases is the prostration and the adynamia.

British Journal of Children's Diseases.

(March, 1912, ix, No. 99).

Abstracted by Harvey P. Towle, M.D.

Morbilliform Rash in a Child. J. Allen, p. 118.

Allen reports the case of a girl thirteen years old who was operated on, under chloroform-ether, for an internal strabismus of the right eye. Two days later a rash developed which was perfectly typical of measles except that it did not affect the face. Except for a slight malaise other symptoms were entirely wanting. The rash disappeared within 48 hours without subsequent desquamation.

Allen discusses the ætiology of the eruption, which he considers very obscure. He thinks he could justly dismiss measles and German measles from the diagnosis and also diet and the anæsthetic, as being ætiologically concerned. The only drug which he considers might have any relation to the rash was boric acid, of which a lotion, 10 gr. to the ounce, was used to bathe the eye every two or three hours.

He concludes with the remark that, although the boric solution was not stopped it is significant that the disappearance of the rash was coincident with the reduction of the eye washings to thrice daily.

Therapeutische Monatshefte.

(1912, No. 1).

Abstracted by Harvey P. Towle, M.D.

The Treatment of Infantile Eczema with Whey-poor Milk. Von Finkelstein.

The treatment is not suitable for every case. The point of his argument lies in the statement that the patient should be given a food as free as possible from whey and salt, but at the same time containing an abundant supply of albumin, fat and carbohydrate.

According to Finkelstein, the eruptions of dry and of widely disseminated eczema are not influenced by the "ekzemsuppe." On the other hand the abundantly secreting inflammatory forms ordinarily termed impetiginous are energetically influenced. Secretions in these cases always diminish within a few days, according to his experience.

Bulletin de la Société de pédiatrie de Paris.

(Feb., 1912, No. 2).

Abstracted by Harvey P. Towle, M.D.

Giant Papulo-Tubercular Bromide Eruption. J. Halle and Dorlencourt, p. 37.

The writers report a case of an eruption of enormous papulo-tubercular lesions, following bromide intoxication.

Berliner klinische Wochenschrift.

(1912, xlix, No. 10).

Abstracted by Ernest L. McEwen, M.D.

Results in the Salvarsan Treatment of Syphilitic and Metasyphilitic Diseases of the Nervous System. O. Klieneberger, p. 443.

Klieneberger reports the results of salvarsan treatment of 87 cases of general paralysis, tabes and syphilis of the central nervous system. The injections given numbered 194, of which the first 21 were intramuscular, the remaining 173, intravenous. Of the two methods he much prefers the latter. The amount of salvarsan given at a dose ranged from 0.2 to 0.5 gm. The intravenous injections were in the main well borne. In nearly every case a rise of temperature from 37° to 40.2° C. occurred a few hours after the injections, often preceded by a chill and usually disappearing promptly. In only a few cases was the temperature rise deferred till the second or third day, and still more seldom did the fever persist several days. In respect to fever there seemed to be no difference whether the case was one of paralysis, tabes or cerebrospinal lues. In his experience the degree of reaction of the patient to the injection could not be foreseen (no reference made to the use of fresh distilled water in preparing the solution for injection). The subjective symptoms most frequently were headache and dizziness, especially in patients with cerebrospinal lues; body-pain, chilliness, tremor in extremities, and stretching, tearing and stabbing pains, especially in tabetics. Severe vomiting was often observed, in one tabetic amounting to a gastric crisis; and with few exceptions more or less diarrhœa occurred in those habitually constipated. In paralysis a condition of apprehensive unrest and delirium was often observed after the injection; in two tabetics attacks of dyspnœa were observed, one patient with cerebrospinal lues experienced a fainting attack. A large number showed no acute reaction after the first injection. In a few an acneiform eruption appeared on the chest, back and arms, during the second week.

Thirty-one cases of general paralysis were treated with discouraging results. Of this number, seven died within a few weeks; of these one had a severe attack immediately after an injection; another experienced his first attack a few days after the injection; a third in whom death occurred in fifteen days, showed at autopsy a thrombus in the longitudinal sinus. Of the remaining twenty-four, sixteen became rapidly worse; in three failure was more gradual; in five only did the condition become stationary and the diagnosis in three of these was not positive. The Wassermann test when applied a few weeks after injection was in isolated cases negative; in no instance was this finding permanent; all that were tested later gave positive results, in both the blood and the liquor spinalis. All patients gained in weight more or less.

Sixteen tabetics were treated. Practically all were improved subjectively at first. Paresthesia and lightning pains became less frequent and severe, in some

cases immediately. In all cases these symptoms returned sooner or later. Gastric crises were improved in three cases, two of whom also received mercury; improvement however, did not last. A slight bladder disturbance in two cases improved, then relapsed. Eye muscle paralysis in two cases disappeared very gradually; a slight sensory disturbance in one case also cleared up. The serological relations were in no instance permanently changed. All patients gained in weight.

Of the twenty-nine with cerebrospinal lues, six were uninfluenced subjectively or objectively. Of the remaining twenty-three, all were greatly improved as regards subjective symptom; headache, dizziness, neuralgic pains, etc., becoming less or disappearing. In ten of these, objective improvement was not observed; of the other thirteen, only one could be considered as having been cured of his cerebral lues. All patients increased in body weight; in no case did the blood become Wassermann negative.

His conclusions may be stated as follows: Salvarsan acts as a profound stimulant to metabolism; it does not influence general paralysis favorably and has but slight effect on tabes. Its action in cerebrospinal lues is favorable, and it is superior to mercury because of its rapid effects in threatening cases. In tabes and cerebrospinal lues improvement seems greater when a combined salvarsan and mercurial treatment is followed; this combination method he thinks will be the treatment of the future.

Weiner klinische Wochenschrift.

(1912, xxv, No. 4).

Abstracted by Ernest L. McEwen, M.D.

The Use of Urotropin in Dermatology. O. Sachs, p. 153.

The observation that urotropin is excreted into other body fluids than the urine, and the successful use of the drug in meningitis, poliomyelitis, otitis and coryza, led the author to test its effect in skin diseases. He found that in ten cases of zoster, in five cases of erythema multiforme and in two cases of impetigo contagiosa, formaldehyde was demonstrable chemically in the vesicles and crusts of the lesions; also that the inflammatory areola about the lesions of zoster and erythema multiforme was more pronounced than usual after several days' administration of urotropin. This phenomenon he considered due to the presence of formaldehyde in the blood serum. He was not able to determine whether the attacks were rendered less severe or were shortened in duration. He urges, however, that further observation be made in the use of the drug in these diseases, especially with reference to action on the lymph glands, and the influence on pain and recurrences; also that it be tested in other diseases of the skin attended with the formation of vesicles and bullæ.

Southern Medical Journal.

(March, 1912, v. No. 2).

Abstracted by Louis Chargin, M.D.

Pellagra in Tennessee. J. A. Albright, p. 69.

The author reports on the state of pellagra in Tennessee and gives the conclusions of a special commission appointed to assist the local physicians in the early recognition of the disease, as well as in instituting a campaign of education. The commission investigated 64 out of 96 counties and found 316 cases. First

cases, as a rule, spring up in the most remote places and simultaneously at widely different points. The epidemic in the United States has appeared in disregard of all laws of epidemiology. While first cases may appear in disregard of any system, a large number have apparently become foci for the development of secondary cases. Such secondary cases fail to sustain either view of the ætiology of the disease to the exclusion of the other. In some counties there is as yet no evidence of secondary cases. Approximately 97 per cent. of the cases admit the use of corn meal in some form. There seem to be authentic cases of abstention from corn in all its forms.

The prodromal stage varies greatly, but is apparently quite long. While diagnostic symptoms may appear spontaneously, they must follow a progressive disease of the spinal cord. A large proportion of cases appear in the wake of, or in the course of some other disease. While it is a disease of the poor, many cases have appeared among the well-to-do. Arsenic appears to have a specific curative effect when begun early and persisted in. Failure to seek relief and especially the persistence in bad hygiene and food usually results in death or insanity. The amelioration or disappearance of the symptoms in cold weather suggests a strong climatic influence upon the course of the disease. There is no proof of its immediate transmission from person to person, though it may be a house infection. Its phenomena can be explained on grounds other than infectiousness and they appear to favor the hypothesis of food transmission. It is possible that cereals and especially corn meal, serve as a vehicle of transmission. Therefore it is imperative that there be sanitary supervision of grain distribution.

Ætiology of Pellagra. T. L. Jelko, p. 72.

For years the author has observed skin manifestations in patients with ulcerative bowel lesions, especially in pellagra, and he found that the amœba was frequently the cause of the process. This led him to the belief that pellagra is a symptom complex presenting a result of parasitic infection in the intestines, with consequent abrasions, inroads, as it were, and either absorption of or the conveyance of toxine-developing bacteria or the toxines themselves, into the blood or the central nervous system. The amœba seems capable of producing these toxines or aiding in the growth of toxine-developing bacteria. He has found some forms of the amœba in most of his cases, and usually many of the organisms have lost much of their hyaloplasm, are immotile, and contain many dark particles, a fact not so often found in other conditions as in pellagra.

Pathology of Pellagra. H. F. Harris, p. 75.

The history of the pathology is traced and an outline of the present status is given. The writer calls attention to the hyperkeratosis of the skin and considers it "exceedingly characteristic." He emphasizes the degenerative nature of the changes in the brain and spinal cord and says: "The outward manifestations of pellagra are but the external expression of a deep-seated internal malady, which come and go, dependent upon the patient's state of health. When the patient's vitality is lowered, the symptoms develop; when he rests, lives in the open, and eats simple, nutritious food, the symptoms disappear. The active elements of the central nervous system are in a large measure destroyed, and are replaced by scar tissue, and therefore the man who asserts that he can cure pellagra with any drug is maintaining that he can do the impossible."

Pseudo-Pellagra. C. H. Lavinder, p. 83.

The author explains how the term arose and gives Roussel's distinction between pellagra and pseudo-pellagra. Protean as are the manifestations of

pellagra, he believes the disease to be a single, definite, morbid entity since it is very definite in outset, evolution and termination. He argues that we cannot in the present state of our knowledge, distinguish between pellagra and pseudo-pellagra by laboratory methods, as for instance in the case of pseudo-diphtheria. We are compelled to depend on chemical grounds alone, and on these we are unable to differentiate. "Why create a pseudo-pellagra? We might as well create a pseudo-measles." He admits that there are cases presenting some of the phenomena of pellagra and yet not sufficient to permit that diagnosis. Such cases he would designate as pellagroid and not pseudo-pellagra. In conclusion, he wishes to emphasize the need of more extensive and more exact clinical observations on pellagra in the United States; to determine more clearly the value of data regarding the existence of symptom complexes or diseases similar to pellagra; to appreciate at its true value what is meant by pseudo-pellagra; and to urge the need of careful studies of pellagra in our public institutions and insane asylums. Here the studies would be of greater value since the corn theory has no such weight as it has especially in Italy, and the observation would be unprejudiced by the veneration of any ætiologic school.

A Cursory Study of the Skin Manifestations of Pellagra, with Reference to its Special Importance from a Diagnostic Standpoint. H. E. Menage, p. 88.

In this article the author describes what he believes to be pathognomonic skin manifestations of pellagra. He asserts that the pellagra erythema, so often compared to a sunburn, differs from the latter in the "color scheme." A sunburn is more acutely red and less œdematous. As the pellagra eruption progresses it assumes a darker hue and the horny layer of the epidermis begins to shrivel. This shriveling process he considers characteristic, particularly so at the border of the patch, where a narrow puckered band marginated on both healthy and diseased sides, is observed. Frequently the skin manifestations are found to be an early symptom and sometimes the only one. We should accordingly be willing to make the diagnosis on the skin lesions, without the symptom complex, so that early treatment may be instituted.

Symptom Complex Called Pellagra. S. J. Tuberville, p. 90.

This paper is a digest of Marie's "La pellagra." The writer presents a discussion of the various theories and in conclusion expresses the following opinion: "That if maise, spoiled or not, is the sole or even the paramount factor, we would have a greater proportion of infections to the number of exposures."

The Treatment of Pellagra. John A. Kimbrough, p. 99.

The rational treatment of any disease depends upon the knowledge of the ætiology and since this is not known in pellagra, the treatment is not satisfactory. An early diagnosis is important for successful treatment. Summed up, his treatment is as follows: Avoiding sunlight, liberal diet, bathing, salt rubs and, during the summer, a high cool climate. Arsenic heads his list of drugs. He quotes Dr. Cole (Mobile) who has used blood transfusion with satisfactory results.

Treatment of Pellagra. Louis LeRoy, p. 101.

The writer argues that if we are to consider a disease as an infection, germicides should prove efficacious. If it is due to toxine coming from without, our efforts should be directed toward preventing ingress of such toxine. If

a toxine develops within the body, the introduction of such substances as develop such toxines should be excluded. He expresses his conviction of the parasitogenic theory and accordingly believes in isolating the patients. Of drugs he has found soamin hypodermatically and Donovan's solution internally the most effective. Iron and iodine have been of little service, while mercury was harmful. Salvarsan has not proved of value, but he will give it further trial according to Martin's method (fractional doses frequently repeated). Gastro-intestinal symptoms, due to paucity of hydrochloric acid, are relieved by the administration of the acid. Intestinal parasites must be exterminated.

The Prognosis of Pellagra. C. C. Bass, p. 106.

Bass warns against unnecessary alarm. The mortality in this country has been considered high because statistics were based on asylum cases and, because a great many mild cases had not been recognized; consequently they were not included in the statistics. He believes that neither the primary (toxic) nor the secondary (exciting) cause, alone, governs the prognosis. A patient may have ingested the toxine for weeks, lowering the resistance of his epithelial tissues to physical forces—bright sunlight, heat, etc., but as long as the tissues are not exposed to these influences, little harm is done. Exposed to such influences the skin lesions are precipitated and with them the nervous manifestations. The chances of recovery are good with mild symptoms after an attack; with severe symptoms the reverse holds true. Exaggeration of the reflexes is of favorable prognosis because it indicates nerve irritability. On the other hand, with absent reflexes the prognosis is bad. He considers a patient safe from the return of the disease, if an attack can be avoided for one year or more. In his experience the mortality in New Orleans (cases from Mississippi and Louisiana) has not exceeded 5 per cent.

Observations on Pellagra in Italy. Herbert P. Cole, p. 107.

From a personal visit, the author has learned that since the Italian and Austrian Governments have undertaken the inspection of maise products, the number of cases, as well as the severity of the symptoms, have decreased.

Pellagra—A Sociologic and Therapeutic Study. George M. Niles, p. 112.

The author believes pellagra to have existed at least 50 years in the United States. There is a difference between pellagra in our country and in Europe. There, the rural and agricultural populations are mostly affected. With us, in the South, it seems to show but little distinction. Negroes seem to be less susceptible. The preponderance of evidence he thinks favors the maise origin of the disease and suggests that the Government undertake the inspection of maise products. Iron arsenite and cacodylate of soda he uses hypodermatically; Fowler's solution for internal use. Other symptoms he treats symptomatically.

Are the Jews Immune to Pellagra? Bernard Wolff, p. 116.

After a learned discussion, the writer comes to the conclusion that the Jews (Orthodox), are comparatively free from pellagra and attributes it to the fact that maise, though not forbidden by the Mosaic Laws, is an innovation, and by virtue of racial conservatism in the diet of the Orthodox Hebrews, practically proscribed.

Some Observations on Pellagra. W. C. Brownson, p. 125.

The author says, with reference to the maise theory, that "Any view as to the causation of disease which has endured for a century in spite of hostile criticism is worthy of profound respect at least." He calls in question the efficacy of the specific remedies used (Fowler's solution, soamin, atoxyl, salvarsan) and with Dr. Harris believes in treating the patient rather than the disease. "Treat as you would a case of tuberculosis, with abundant nourishing food, unlimited fresh air, a change of scene and surroundings, rest and but little medicine."

Journal-Record of Medicine

(March, 1912, lviii, No. 12).

Abstracted by Louis Chargin, M.D.

Ætiology, Pathology and Treatment of Pellagra. G. C. Mizell, p. 625.

Further points in defense of his linolein theory are brought out in this paper. He says it is impossible to harmonize the seasonal incidence of pellagra with the action of any poison. "If 'pellagrosine' is the poisonous substance of spoiled corn, and is analogous to ergot, there ought to be no seasonal incidence; ergotism has none. If we accept the theory that the oxidation products of linolein are the cause of pellagra; whether these oxidation products are from linolein of corn, cotton seed oil, oil of walnut, or sunflower seed, and that these poisons may produce the disease whether the poisons are performed outside of the body, or whether developed as a biochemical poison, then it will be possible to harmonize the apparently contradictory facts in the history of pellagra." Dr. Bass's question as to why, if the consumption of linolein is the cause of pellagra, the disease does not occur in certain of our Eastern cities, Turkey, Germany, France, etc., is answered by showing (statistics) the small consumption of linolein or its products in these localities. He asserts that clinical evidence is against the parasitic theory of the disease. When it is recognized that the ingested fat does influence the cellular structure of the body, we may find a simple explanation of all the symptoms of this disease. Thus the skin through changes induced by the ingestion of an unstable fat may itself become unstable and be susceptible to influences that the normal skin resists. Such conception is much more in harmony than the toxico-chemical, or parasitic view of the disease.

BOOK REVIEW.

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, A.B., M.D. Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College of Graduates in Medicine. 534 pages, fully illustrated. Philadelphia and London, *W. B. Saunders Company,* 1910. Cloth, $3.00 net.

After touching upon the subjects of anatomy, physiology and symptomatology, the author takes up the study of the different diseases, arranging them in nine groups, without special attempt at classification, beginning with the anæmias and ending with the neuroses of the skin. There is a separate chapter for actinotherapy and radiotherapy.

The various affections are described in a brief but practical way, special attention being given to symptomatology, diagnosis and treatment. This takes up 380 pages of the volume, the balance being devoted to the acute eruptive fevers and the acute infectious diseases accompanied, at times, by eruptions.

The whole is profusely illustrated with black-and-white reproductions which are uniformly of a high order and add greatly to the usefulness of the book. The chapter on syphilis, we think, attains its chief value from these. Naturally, in a work of this size, little can be said about sero-diagnosis, its value, interpretation, etc., but it would have been an advantage to mention it in its bearing upon diagnosis. The Ehrlich-Hata discovery came too late to receive mention in this volume.

In the chapter on the X-rays, the author's recommendation of this agent in the treatment of hypertrichosis, tinea, acne, sycosis, lupus erythematosus, psoriasis, etc., is advisedly tempered by calling attention to the dangers incident to it and we think, in a work of this kind designed for the student and practitioner, it might have been well to state emphatically that this agent, in these conditions, should be employed only by an expert dermatologist and radiotherapeutist.

The chapter on the exanthemata, treating as it does the skin manifestations exhaustively together with differential diagnosis, we consider a most valuable adjunct to the work, and a feature that might well be followed by authors of the larger text-books.

The book is excellently gotten up and heavy glazed paper is used throughout; this, in a volume so profusely illustrated has its distinct advantages.

It is a safe and sane book for the guidance of the practitioner.

H. H. W.

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ERYTHEMA AB IGNE.*

By M. B. Hartzell, M.D., LL.D., Philadelphia.

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ALTHOUGH most English and American treatises on diseases of the skin mention briefly the reticulate erythema and pigmentation which may follow the long-continued application of heat to the skin, very little is to be found about this curious and rather interesting affection in dermatological literature. French and German authors of recent treatises on diseases of the skin do not mention it at all. Indeed, the English dermatologists are apparently the only ones who see it with any degree of frequency and are, consequently, the only ones who seem to have a real practical acquaintance with it. In this connection I may mention that I have on at least two occasions exhibited two excellent colored photographs of one of the cases here reported, at the Annual Meetings of this Association, labelled "For Diagnosis," and not a single opinion was ventured as to the nature of the eruption. One of the members, a man of very large experience, when asked personally for a diagnosis, frankly said that he had never seen anything resembling it and had no opinion as to its nature. For this reason, and because of its rather curious clinical features, I have thought it might be of some interest to briefly report the few cases which have come under my observation, two of them quite recently.

In March, 1900, a man, 32 years old, a vagrant, and quite evidently an alcoholic, came to the Skin Dispensary of the University Hospital for treatment for a skin affection of the lower extremities which presented the following features: A very bright-red, reticulate erythema, somewhat elevated and in places slightly scaly, occupied the upper half of the outer side of the left leg and continuous with its lower border, extending to the ankle, was a dark-brown pig-

* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

mentation presenting a similar reticulation. The inner and anterior surface of the right knee was the seat of a like erythema and pigmentation, the reticulation being even more distinct than that upon the left leg. The patient did not complain of any subjective symptoms, but was evidently somewhat alarmed at the appearance of the eruption. As he was more than ordinarily dull, little or nothing could be learned about the beginning or duration of the disease. Under indifferent treatment the erythema disappeared in the course of a week and was replaced by pigmentation similar to that present upon the lower part of the leg at the time of his first visit. Although the real nature of the eruption was not recognized at the time there can be no doubt that this was an example of erythema ab igne seen in its early stages, before the erythema had been replaced by pigmentation.

While the malady is found principally in those who have exposed the skin to the heat of the stove or furnace and in consequence, is usually situated upon the legs, it may follow exposure to other sources of heat and may be found in other situations. In the second case of this series the disease was situated in the lumbar and sacral regions, and had followed the long-continued application of a hot-water bag.

Mrs. G., 35 years old, a patient in the Oncologic Hospital of Philadelphia, had a very extensive and well-marked reticulate, brown pigmentation covering the greater part of the lumbar and sacral regions and the anterior surfaces of the upper thighs. In places the pigmented area was slightly scaly. The patient stated that a similar discoloration which had gradually disappeared some time before the date of my examination, had been present upon the abdomen. She had a carcinoma of the uterus which had been preceded by ovarian cysts and uterine fibroids and had undergone three abdominal sections. As the result of these grave abdominal diseases she had suffered greatly from sacral and abdominal pains extending down the thighs, for the relief of which she had kept a hot-water bag applied to these regions almost continuously for months at a time. But little could be learned about the condition of the skin previous to the appearance of the pigmentation, but there is little doubt that it was preceded by some degree of dermatitis.

Apparently the eruption may be produced by moist as well as dry heat. Stowers presented a case before the Dermatological Society of Great Britain and Ireland in a young woman, 23 years old, who denied undue exposure to the fire, and he was inclined to attribute it to the frequent use of inordinately hot baths: other members of the Society, however, did not believe that it could be produced by the direct application of hot water.

Quite recently I have seen a typical example of the affection in the wards for skin diseases in the Philadelphia General Hospital.

M. S., a woman 36 years old, with an extensive tubercular syphiloderm occupying the forehead and nose, who had been transferred from the alcoholic ward, was found, quite accidentally, to have a well-marked plexiform, light-brown pigmentation on the inner side of both legs, extending from the knee to the ankle, but best defined on the upper part of the limbs. The patient when asked about the discoloration said that it was due to heat as she was in the habit, during the

winter just past, of sitting close to a hot stove for hours at a time, sometimes with her skirts raised and occasionally with her legs in the oven. As the result of this prolonged exposure to heat a "red rash" made its appearance which soon faded when she no longer sat by the stove. Upon her entrance into the hospital the markings were quite violaceous, but this gave place in a few days to a coffee-colored discoloration. In the beginning, when the erythema was present, there had been slight burning, but this had long since disappeared. In connection with this case occurring in a syphilitic, it may be mentioned that this affection is occasionally mistaken for the pigmentation which so often follows syphilitic eruptions. Crocker has called attention to an error of this kind made by a no less eminent authority than Erasmus Wilson, who called it melanopathia syphilitica in his "Portraits of Diseases of the Skin."

During the preparation of this paper a fourth case has come under my observation in the Skin Dispensary of the University Hospital. In examining a man, 71 years old, who came for the treatment of an extensive eczema, it was noticed that he had reticulate patches of dark-brown pigmentation on the knees, very faint upon the right side, but very well marked upon the left. Upon questioning him it was learned that he was in the habit of "toasting" his knees at the fire. Apart from the feebleness to be expected in a hard-working man of his years, he was quite evidently not in good health.

It is worthy of note that in all four of the cases here reported, the patients were decidedly below the normal standard of health, either as the result of previous illness, alcoholism, or old age, and this seems to be true generally. Indeed, I doubt very much whether the disease can occur in an ordinarily healthy individual.

As a rule the subjects of the malady are adults, but Abraham saw a case, with unusually extensive pigmentation, in a boy 8 years old, who a short time before had been in the hospital with scarlet fever.

Although the inflammation rarely passes beyond the erythematous stage it may go on to decided thickening and even vesiculation. In a case exhibited by Perry before the London Dermatological Society, the markings which were dark-red, were distinctly elevated, this being due, in the opinion of the exhibitor, to an infiltration in the walls of the superficial veins, the reticulations following the distribution of the affected vessels. Notwithstanding this infiltration he did not regard the affection as an inflammatory one, but one due to a disintegration of the blood in and around the walls of the superficial veins. In the case depicted in Crocker's Atlas of Diseases of the Skin, a vesicular eruption with an irregularly annular arrangement occupied the upper part of the legs.

Sections made of skin excised from the erythematous areas in the first case and from the deeply pigmented patches over the sacrum in the case in which the affection had followed the long-continued use of the hot-water bag showed slight, but unmistakable pathologi-

cal changes. The epidermis showed a moderate degree of parakeratosis with a slight broadening of the rete layer. In the sections made from the second case, in which there was no longer erythema present, the granular layer of the epidermis was absent and here and there were a few scattered polymorphonuclears lying between the cells of the corneous layer. There was a moderate amount of cellular exudate in the papillary and subpapillary portions of the corium most noticeable in the vicinity of the vessels and, in the sections made from the erythematous areas, about the coil-glands. All the sections showed a more or less marked deposit of brown, granular pigment in the basal cells of the rete mucosum which in those made from the pigmented areas set off this layer of cells sharply from the rest of the epidermis. These changes show very clearly that the affection is an inflammatory one, and not simply a staining of the skin with blood-pigment as has been maintained by Perry and, therefore, the name erythema ab igne is much more appropriate for it than ephelis ab igne proposed by this author.

DISCUSSION.

Dr. Zeisler said this paper showed how a careful and observing clinician could take hold of a subject which was fairly familiar to all of us and make out of it a splendid clinical paper. These cases were by no means rare, and must remind us of the familiar pictures that were often seen after the long application of a hot-water bag, and as the lesion was usually an ephemeral one, it perhaps did not occur to many of us that it was deserving to be regarded as a distinct clinical entity. The speaker said that in the way of suggestion rather than criticism he thought the name "ab calore" would be preferable to "ab igne," as the erythema was produced by heat rather than by fire.

Dr. G. H. Fox said he wished to indorse what Dr. Zeisler had said in regard to the excellent manner in which Dr. Hartzell had handled this subject. He also agreed that the term ab calore would be preferable to ab igne. In connection with this paper, Dr. Fox referred to a photograph of a woman with a reticulated, rosy eruption extending over the back, which was very similar to the condition described by Dr. Hartzell. Whether this patient had been in the habit of sitting by the fire or not, Dr. Fox said he did not know.

Dr. Hartzell said he did not originate the term erythema ab igne. He had simply adopted it.

PLATE XX.—To Illustrate Article by Dr. M. B. Hartzell.

Erythema ab Igne following the long-continued application of a hot-water bag.

EXPERIENCE WITH NOGUCHI'S LUETIN REACTION.*

Howard Fox, M.D., New York.

THE successful cultivation of the spirochæta pallida by Noguchi has opened up new opportunities for the experimental investigation of syphilis. A direct result of this achievement is the luetin reaction, a diagnostic cutaneous test similar to that of von Pirquet for tuberculosis. The reaction is produced by the injection of a suspension of spirochætæ pallidæ that have been grown in pure culture and then destroyed by heat.

In my experience with luetin, which Dr. Noguchi has very kindly given me, I have followed the technique prescribed in his original communication (*Jour. Exper. Med.*, 1911, xiv, p. 557). One-tenth of a cubic centimetre of the luetin was injected in the skin of the left arm and an equal amount of the control (uninoculated culture medium) in the skin of the right arm. The injections were given as superficially as possible, separate syringes and needles being used for the luetin and the control.

The first few cases injected were observed daily for a period of ten days. The majority, however, were seen upon the third day after the injection and subsequently at irregular intervals. All of them were followed at least two weeks.

In five of the cases constitutional symptoms of an insignificant character followed the injections. Two of the patients complained of headache and two of general malaise. No attempt was made to observe the effect of the injection upon the temperature. The local discomfort accompanying the reaction was slight as a rule.

A positive reaction was generally first noticed on the evening of the day of injection or the following morning and was at its height in the course of 48 to 72 hours. In one case it was delayed until the ninth day (the "torpid" form of Noguchi).

The reaction varied greatly in intensity. In some cases it appeared simply as an inflammatory nodule. In others the nodule was surrounded by a bright-red areola varying from a half inch or less to three inches in diameter. Pustulation was noted in 11 cases. From a dermatological standpoint, I have preferred to speak of the usual reaction as an inflammatory nodule instead of a papule as Noguchi has done. The lesion is deep seated and does not cor-

* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

respond to the dermatologist's conception of a papule. It is highly inflammatory and suggestive of an incipient furuncle. It certainly bears no resemblance to the dull-colored papule of syphilis.

In quite a number of the cases, all of which were observed by my colleagues at the Vanderbilt Clinic and the Harlem Hospital, it was difficult to decide how the reaction should be interpreted. In a number of cases in which there was no suspicion of syphilis, the reaction was present in a doubtful or mild form. I am glad to say, however, that I have not found as yet, a well-marked reaction in an undoubted non-syphilitic case.

In most of the cases of syphilis the Wassermann reaction was performed for comparison with the luetin test. In all of these cases I used two separate antigens (alcoholic extracts of syphilitic infants' livers) and followed the original method of Wassermann.

My experience with luetin is limited to 100 cases, 49 of which were of acquired syphilis. Control tests were made in the other cases which were of various non-specific diseases of the skin. In 14 cases of active secondary syphilis (Table I) the luetin reaction was positive in 6 cases or 43 per cent. The Wassermann reaction was positive in 100 per cent. of the cases (not being performed in one instance). In 33 cases of tertiary and latent syphilis (Table II) the luetin reaction was positive in 17 or 51 per cent., negative in 14 and doubtful in 2 cases. The Wassermann reaction showed varying degrees of positiveness in 19 or 65 per cent. (not performed in 4) and negative in 10 cases.

Of 5 cases of tertiary and latent syphilis that had been well treated by mercury (Nos. 2, 3, 8, 19, 33), one gave a positive and 4 negative luetin reactions. Of 11 cases treated by one or more injections of salvarsan 3 gave positive and 8 negative luetin reactions.

In 10 of the cases the reaction was about equally marked upon both arms, possibly the condition which Neisser has termed "Umstimmung." These cases (Nos. 5. 13, 14 in Table I, and Nos. 5, 8, 11, 17, 21, 26, 32 in Table II) were included among the positive reactions. In addition a few other cases giving well-marked positive reactions showed a partial reaction in the control arm.

Most of the patients in whom a positive reaction occurred have continued up to the present time to show a bluish macule or tiny keloid at the point of injection. These lesions still persist in some patients who were treated two months ago.

Before an opinion of real value can be expressed upon the luetin reaction, it will be necessary to study the results of a very large

number of clinical investigations. My own experience is too small from which to draw conclusions. It is, however, my hope and belief that the luetin test will prove to be of some value as a diagnostic aid, particularly in cases where the Wassermann reaction fails to give any definite information.

I am indebted to Dr. George T. Jackson and Dr. Edward Pisko for the use of their material at the Vanderbilt Clinic and the Harlem Hospital respectively. I also wish to thank Dr. B. F. Ochs, Dr. R. Frothingham, and Dr. C. D. Van Wagenen for permission to inject a few of their cases.

TABLE I

CASES OF SECONDARY SYPHILIS

N	Sex	Age	Lesions	Treatment by mercury	Wassermann reaction*	Luetin reaction
1	M	51	Papular syphilide	None	+ +	Negative
2	F	24	Papular syphilide	Internal, 3 months	+ +	Negative
3	F	28	Macular syphilide	None	+ +	Positive
4	M	30	Macular syphilide	None	+ +	Negative
5	F	28	Mucous patches	Internal, 2 weeks	+ +	Positive
6	M	34	Papulo-pustular syphilide	None	+ +	Negative
7	M	42	Macular syphilide	None	+ +	Negative
8	F	28	Papular syphilide	None	+ +	Negative
9	M	24	Papular syphilide	None	+ +	Negative
10	F	15	Macular syphilide	None	+ +	Negative
11	F	26	Mucous patches	Internal, 1 month	+ +	Positive
12	M	33	Mucous patches	Internal, 1 month	Not done	Positive
13	M	24	Mucous patches	Internal, 3 months	+	Positive
14	F	27	Mucous patches	Internal, 1 month	+ +	Positive

*Strongly positive + +
Positive +
Weakly positive † +
Faintly positive † † +
Negative —

TABLE II

CASES OF TERTIARY AND LATENT SYPHILIS

No.	Sex	Age	Lesions	Treatment by mercury	Treatment by salvarsan	Wassermann reaction*	Luetin reaction
1	F	46	Gumma	Internal, 3 months		—	Positive
2	M	38	Periostitis	Internal, many years, 20 injections		+	Negative
3	M	44	Latent	Internal and inunctions, 3 years		—	Negative
4	M	37	Latent	Internal, 1 month		+	Negative
5	F	28	Tuber'lar syphilide	Few injections	1 intramuscular and 1 intravenous injection	+	Positive
6	M	49	Tuber'lar syphilide	Internal, 1 month		Not done	Positive
7	M	25	Gumma	Internal, 2 months		Not done	Positive
8	M	29	Latent	Internal, 4½ years		† +	Positive
9	M	51	Gumma	None		+	Doubtful
10	M	23	Latent	None	2 intra'ular injs.	—	Negative
11	M	40	Latent	Internal, 2 years		+ +	Positive
12	F	21	Latent	Internal, 7 months		—	Positive
13	M	38	Gumma	None		† +	Positive
14	M	30	Tuberculo-squamous syphilide	None		Not done	Positive
15	M	23	Latent	None	4 intra'nous injs.	† † +	Negative
16	F	54	Latent			—	Negative
17	M	33	Latent	Internal, 6 months		† +	Positive
18	M	26	Latent	None	1 intra'ular inj.	—	Negative
19	M	33	Latent	Internal, 3 years; few injections	1 intra'nous inj.	† † +	Negative
20	F	24	Mucous patches	15 injections		† +	Negative
21	M	30	Latent	Internal, 18 months		† +	Positive
22	M	31	Latent	Internal, 3 years	1 intra'nous inj.	—	Negative
23	F	23	Latent	None	1 intra'nous inj.	—	Negative
24	M	28	Latent	Internal, 1 year		—	Negative
25	M	23	Latent	None	2 intra'nous injs.	—	Negative
26	F	31	Latent	Probably none		+ +	Positive
27	F	30	Latent	None	1 intra'ular inj.	+	Positive
28	F	22	Gumma	None		+ +	Doubtful
29	M	42	Latent	Internal, 1 year		† +	Positive
30	M	21	Latent		1 intra'nous inj.	† † +	Positive
31	F	28	Latent	Internal, 10 months		Not done	Positive
32	F	32	Latent	Internal, 2 months		† † +	Positive
33	M	36	Latent	90 injections	3 intra'nous injs.	† † +	Negative

*Strongly positive + +
Positive +
Weakly positive † +
Faintly positive † † +
Negative —

DISCUSSION.

DR. PUSEY said that Dr. Noguchi had sent him a supply of luetin which he received about ten days ago. He had used it in forty cases, and his experience with it closely corroborated the findings of Dr. Fox. The speaker had followed the same technique as the reader of the paper, excepting that he used the luetin and the control injection on the same arm, about two inches apart. Dr. Pusey said he was glad to hear Dr. Fox speak of the reaction lesion as an inflammatory

nodule rather than an inflammatory papule. The injections gave rise to a dark-red nodule, with a reddish halo, ranging in diameter from three-quarters of an inch to an inch and a half. In a general way, the speaker's impression was that the reaction was of distinct value. The findings, as a rule, closely corroborated the Wassermann reaction and the clinical diagnosis. There was only one puzzling fact in connection with the reaction thus far, and that was that in cases where he obtained a very definite luetin reaction, he also got a distinct reaction at first with the control. He did not know how to account for that. This reaction would subside by the third or fifth day, and in none of these cases was there any room for doubt as to the luetin reaction being much more decided than the control reaction. In those cases where there was no reaction from the luetin, there was no reaction in the control lesion. Noguchi had emphasized the fact that no importance should be attached to a reaction occurring within 24 hours. Dr. Pusey said that while he had not yet had the opportunity to carefully analyze his cases, his experience showed in a general way that where he got a positive Wassermann, he nearly always obtained a positive luetin reaction. Especially was this true in the later syphilides. In a number of cases of early syphilis where he obtained a positive Wassermann, the luetin gave no reaction. The most satisfactory points were that it gave no positive reaction in non-syphilitic diseases and the results had not been misleading. In one case of erythema multiforme on the backs of the hands, there was no reaction. In another case of a recurrent eruption in the mouth of a woman, both the Wassermann and the luetin reactions were negative. In a case of pulmonary tuberculosis with tuberculides on the legs and buttocks, the reaction was negative. This was also true of a number of other control cases including chancroids, buboes, etc. Therefore, the speaker said, his impression from a confessedly incomplete experience, was distinctly favorable and he thought that in the luetin reaction we had another factor of value in the diagnosis of syphilis.

Dr. Engman said that he had obtained a supply of luetin several months ago, and had been experimenting with it. He agreed with the reader of the paper that the lesion produced by the injections should be termed a nodule. The technique that Dr. Engman had followed was practically similar to that described by Dr. Fox. On the control arm, quite a lesion was produced, but it was not as marked as that on the arm where the luetin was used. When Noguchi was in St. Louis about two months ago, he seemed to give the impression that he regarded this as more of a sensitizing reaction than anything else. The speaker said that one of the nodules produced by an injection of luetin had recently been enucleated and examined by Dr. Buhman. He was not yet able to give the result of that examination.

Dr. Ravogli said that in some cases the Wassermann test might give a peculiar reaction which was unreliable. There was a modification which was not due to the deviation of the complement, but to a precipitation of globulins. In many diseases especially of an infectious nature, globulins were formed, which in the serum gave a precipitation imitating a positive Wassermann.

Dr. Winfield said that while personally he had not been doing any work with luetin, he had been watching many of Dr. Noguchi's cases which had been furnished from the King's County Hospital, and the speaker had with him the tabulated results in 50 recent cases. Eight of these 50 cases gave a very indefinite history of syphilis, 6 had gonorrhœa and bubo, and thought they had had a chancre. The serological examination in these cases, as well as the luetin test, proved negative. Thirteen of the 50 cases were examples of nerve syphilis; in 9 of these, the serological test was negative; in 1 it was weakly positive. All

of these 10 cases gave a positive reaction to the luetin test. In 3 cases of spastic paraplegia the Wassermann test was negative, but all 3 responded strongly to the luetin test. Among this series of 50 cases there were 6 cases of hereditary syphilis; 3 gave a positive serological reaction, and 4 of them responded faintly to luetin. Twenty-six of the 50 cases had some visible signs of syphilis; 7 of them were in the primary stage, 13 secondary, and the rest late secondary or tertiary, the latter with some kind of gummous manifestations. Of the 7 primary cases, all gave a negative Wassermann, 4 gave a negative luetin, and 3 gave a faintly positive luetin. Of the 13 secondary syphilitics, 5 were Wassermann positive, 4 were weak and 4 negative; 3 reacted strongly to luetin; in 8 the reaction was weak and 2 were negative. Four of the tertiary cases were Wassermann negative and 2 were positive, but all of them (6) reacted strongly to the luetin test. The above results, Dr. Winfield said, were rather more favorable to luetin than Dr. Fox's paper would indicate, and personally he thought the value of the test lay wholly in its negative results. It gave no positive reaction in cases that were not syphilitic and, therefore, if the test had any value—and he did not doubt that it had—it would be on the negative rather than on the positive side.

Dr. Pollitzer said his experience with luetin now dated back about a year, when he furnished Dr. Noguchi with the material from his clinic for about fifty injections, including some twenty controls on cases of various skin diseases such as psoriasis, eczema, etc., presumably not syphilitic. The cases of syphilis ranged from primary to late tertiary, and included cases that had never been treated as well as those that had undergone various degrees of treatment with mercury, salvarsan or both. Dr. Pollitzer said that while he had not at hand the exact figures, he had some very definite impressions in regard to this reaction. In the first place, it seemed to be definitely established that only a relatively small percentage of cases of syphilis in the secondary stage—say within a year and a half after infection—gave any reaction. Of the older cases, those in the tertiary stage, something more than 50 per cent. gave a reaction. This, the speaker thought, was rather curious, as one would expect a definite biological test to gave a more constant result. One would have expected the luetin reaction to be positive in a very large majority of cases, but as a matter of fact it was not, and this, Dr. Pollitzer said, had vitiated, in his mind, the clinical value of the test, at least in the present state of our knowledge. As to the occurrence of the reaction in non-syphilitics, the speaker called attention to the fact that there were a number of cases in which we got what might be called a border-line reaction. He recalled, furthermore, one of the controls—a case of urticaria—in which the luetin gave a very definite, clear-cut reaction: in that case, his own experts reported a negative Wassermann, while Noguchi himself reported that the Noguchi test was weakly positive. Those who were familiar with the Noguchi test knew that not infrequently we obtained a weak, positive reaction in cases that were not syphilis at all. Many more controls would be necessary before he could definitely answer the question as to whether the luetin reaction ever occurred in the non-syphilitic. The great importance of the test might possibly be found in those obscure cases in which syphilis was suspected and which gave a negative Wassermann reaction; cases in which there were obscure lesions of the brain or cord and where the probable clinical diagnosis was syphilis. If those cases gave a good luetin reaction, then we had something definite and of real value, but that aspect of the question must still be worked up.

Dr. Winfield said that in the cases included in his report, all the tests, both the Wassermann and the Noguchi, were made at the Rockefeller Institute. The cases that showed the stronger luetin reaction were under active treatment, or had received one or two doses of salvarsan.

THE ALOPECIAS IN GENERAL, WITH ESPECIAL REFERENCE TO A HITHERTO UNDESCRIBED FORM OF BALDNESS, "ALOPECIA INDURATA ATROPHICA."*

By Richard L. Sutton, M.D., Kansas City.

DESPITE a fairly complete knowledge of the alopecias, a satisfactory classification of the various types of baldness has yet to be devised. Of the various plans suggested, a slight modification of that proposed by Brocq (Traité elémentaire de dermatologie pratique, 1907, p. 278) is probably the most comprehensive. The various morbid conditions are divided into two major groups: those forms of baldness representing actual disease entities, and those occurring as a result of cutaneous reaction. Under the first may be placed:

- 1. Alopecia due to direct traumatism.
  - 1. Alopecia due to evulsion.
    - Therapeutic epilation.
    - Trichomanie (Besnier).
  - 2. Alopecia due to friction.
    - Occipital baldness in debilitated and hydrocephalic infants.
    - Alopecia from friction of hair ornaments.
    - Alopecia from scratching.
  - 3. Alopecia due to direct destruction of the hair follicles, or to the action, en masse, of a harmful agent upon the scalp.
    - Alopecia due to injury from a blunt instrument.
    - Alopecia due to action of chemical caustics.
    - Alopecia due to electrolysis.
    - Alopecia due to action of the thermo- or electrocautery.
    - Alopecia due to the action of the X-rays.
  - 4. Alopecia due to incorrect hygiene in the care of the scalp.

2. Artificial alopecia due to the action of certain internal or medicinal agents (as thallium acetate).

*This paper was read, and cases exhibited, before the General Section of the Jackson County Medical Society, October 10, 1911.

- **3. Alopecia due to known vegetable parasites.**
  - Alopecia due to the large and small-spored ringworms.
  - Alopecia due to favus.
  - Alopecia due to pityriasis simplex (?).

- **4. Alopecia of microbic origin.**
  - 1. Alopecia in which baldness is the major symptom.
    - *a.* Alopecia due to seborrhœa.
      - Oily seborrhœa.
      - Pityriasis steatoides.
    - *b.* Alopecia areata.
      - Syphilis.
      - Acne atrophica.
      - Folliculitis (complicating seborrhœic dermatitis).
      - Keratosis pilaris.
    - *c.* Alopecia due to destructive folliculitis.
      - *a.* Disseminated.
        - Pseudo-pelade, and folliculitis decalvans.
        - Lupoid sycosis.
      - *b.* Agminate.
  - 2. Alopecia in which baldness is only one of the symptoms of the malady.
    - *a.* Alopecia due to local affections.
      - Lupus vulgaris.
      - Lupus erythematosus.
      - Impetigo.
      - Furuncles.
    - *b.* Alopecias due to diseases having both a general and a local action.
      - Typhoid fever.
      - Scarlet fever.
      - La grippe.
      - Variola.
      - Erysipelas.
      - Leprosy.
      - Syphilis.

Under the alopecias occurring as a result of cutaneous reactions we have:

- **5. Alopecia probably dependent upon autointoxication.**
  - 1. Alopecia due to affections acting only locally.
    - Eczema.
    - Lichen planus.
    - Psoriasis.
  - 2. Alopecia due to affections having both a local and a general action.
    - Malignant exfoliative herpetiform conditions.
    - Scarlatiniform eruptions.
    - Desquamative erythemata.
    - Generalized exfoliative dermatitis.
    - Pityriasis rubra.
    - Pemphigus foliaceus.
    - Mycosis fungoides.

- 6. Alopecia of nervous origin.
  - 1. Alopecias which appear to be primarily due to nerve disturbance.
    - Alopecia areata.
    - Alopecia of reflex origin.
  - 2. Alopecias occurring secondarily to a disease involving the nerves.
    - Pseudo-pelade (the cicatricial alopecia of Besnier) (?).
    - Scleroderma.
    - Cutaneous atrophies.
    - Alopecia indurata atrophica (probably).

- 7. Alopecia due to nutritional disturbances and to dystrophies.
  - 1. Alopecia due to atrophies directly affecting the hair.
    - Trichorrhexis nodosa.
    - Trichoptilose.
    - Monilethrix.
  - 2. Alopecias occurring as a result of pathological states that affect the general health.
    - *a*. Acute pathological states.
      - Surgical operations.
      - Confinement.
    - *b*. Chronic pathological states.
      - Anæmia.
      - Chlorosis.
      - Diabetes.
      - Cancer.
      - Myxœdema, etc.
    - *c*. Diseases of other organs.
      - Uterus.
      - Stomach.
      - Intestines, etc.
  - 3. Alopecias due to evolutionary changes in the tissues, and to poor hygiene.
    - Senile alopecia.
    - Premature idiopathic alopecia, and alopecia due to poor hygiene together with a hereditary predisposition to baldness.
    - Seborrhœic alopecia.
  - 4. Congenital alopecia.
    - *a*. Primary congenital alopecia.
      - Circumscribed.
      - Diffuse.
    - *b*. Congenital alopecia secondary to a pathological process in utero.
      - Nævi.
      - Moniliform aplasia.

In diseases of the scalp, as in affections involving the skin on other parts of the body, the most puzzling pathological conditions are those of nervous origin. For this reason, the various types of baldness included under Group 6 are of particular interest. A careful study of the literature of alopecia areata, however, and especially of the contributions of Bowen (*Jour. Cutan. Dis.*, 1899, p. 399) and Putnam (*Arch. Pediat.*, August, 1892) in this country, and Crocker (*Lancet*, Feb. 21, 1891), Besnier (*Bull. Acad. de méd.*, 1888, p. 182), Merklen (*Ann. de dermat. et de syph.*, 1888, p. 813) and Ehrenhaft (*Klin.-therap. Wchnschr.*, 1899, p. 358) in England and on the Continent, is sufficiently conclusive to warrant the recognition of a parasitic or contagious as well as a neurotic form of this variety of hair loss.

The advisability of placing pseudo-pelade in this group is extremely questionable, as Brocq himself acknowledges. Personally, I consider the condition essentially a cicatricial one, the result of a destructive folliculitis, and believe that it properly belongs only in Group 4.

The ætiologic relationship of scleroderma to certain forms of baldness is of great theoretical interest, particularly when the occasional association of this disease with various types of cutaneous atrophy is borne in mind (Herxheimer and Hartmann (*Arch. f. Dermat. u. Syph.*, lxi, pp. 57 and 255), Herxheimer (*Jour. Cutan. Dis.*, 1905, p. 241), Kingsbury (*Jour. Cutan. Dis.*, 1907, p. 414), and Herxheimer and Schmidt (*Jour. Cutan Dis.*, 1911, p. 257). Lewin and Heller ("Die Sklerodermie," Berlin, 1895), in their valuable and exhaustive monograph on scleroderma, conclude that the condition is a neurosis (either an angioneurosis, a trophoneurosis, or an angiotrophoneurosis), but as the pathologic findings have been so variable, a definite statement cannot be made regarding the probable associated changes in the nervous system.

During the past three years, I have had an opportunity to study three cases of partial alopecia in which the clinical and histopathological findings were new to me and also to several other dermatologists of wider experience with whom I have consulted concerning them.

Case 1.

The patient, M. S., female, housewife, aged 39, was referred to me by Dr. C. M. Wallace, of St. Joseph, Mo.

Family History. The family history was negative. The patient was the mother of three children, two girls and a boy, aged eight, twelve, and fourteen

years, respectively. All were strong and healthy in every way, and had apparently normal scalps.

Personal History. The patient was a native of Missouri and a resident of St. Joseph, Mo. She had the usual diseases of childhood, but had never experienced severe or protracted illness. Her scalp had always been almost entirely free from dandruff, and the skin on other parts of her body had never been affected in any way. Her hair, which was golden in color, had never been particularly abundant, but up to the patient's thirty-third year it had always extended to a point well below her waist line.

Present Condition. About six years prior to the time of consultation, the patient first noticed that her hair was becoming shorter and thinner. There was no undue dryness nor oiliness of the scalp, and no itching. Each time the hair was combed, a considerable amount, from fifty to one hundred filaments, was lost. The detached hairs were usually quite long, and an examination of the basal extremities showed that either the entire appendage had been extracted from the root sheath, or that the shaft had been fractured at some point within the follicle.

Examination. The patient was a blonde, strong and well nourished, five feet and eight inches in height, and weighed one hundred and forty-six pounds. Her skin was soft, moist and pink, and free from lesions of any kind. The buccal mucous membrane was normal, and no scars were to be seen. The supra-orbital, axillary and pubic hair was unaffected, but that of the scalp was shorter than usual, and lacking both in amount and lustre. The average length was about twelve inches and, although the distribution was fairly regular, the patient asserted that the number of shafts was decreased fully forty per cent. Very few lanugo hairs were present and no scars, or circumscribed depressed areas were to be found. One of the most striking features in the case was the "hide-bound" condition of the scalp. The integument in this region was drawn down as closely to the underlying fascia as the raw-hide covering on a base-ball, and no evidence of a subcutaneous fatty cushion was perceptible to the touch.

Although the case was a puzzling one, and resembled no condition that I had ever seen described, it was not as carefully studied as it should have been. The patient strongly objected to a biopsy, and no tissue was secured.

Case 2.

The patient, N. J. C., female, single, school teacher, aged 27 years, was referred to me by Dr. John Davis, of Kansas City.

Family History. The family history was negative. Neither the patient's mother nor either of her grandmothers, had ever been troubled with alopecia, and her three sisters all had plentiful amounts of hair.

Personal History. The patient is a native of Kansas, and a resident of Kansas City. Her general health was very good up to her nineteenth year, when she had a nervous breakdown and since that time, although apparently well and healthy, from a physical standpoint, she has suffered more or less from neurasthenia. Up to the patient's twenty-fourth birthday, her hair was abundant in quantity and even in color. She has never had a skin disease of any kind.

Present Condition. When the patient was about twenty-four years old, she first noticed that her hair was becoming thinner and less uniform in color. The scalp was not rough nor scaly, although it was somewhat whiter than formerly. There were no subjective symptoms. The usual household remedies were employed, but without avail. The hair loss was not confined to any particular region, although the parietal areas were somewhat more affected than the margin of the scalp. At times there was present a sensation of constriction, as if a band was being drawn around the skull.

Examination. The patient was a strong and apparently healthy woman, with brown hair and eyes. She was five feet eight inches tall, and weighed one hundred and forty-eight pounds. A careful general examination, including blood and urine analyses, showed nothing abnormal. The Wassermann test was negative, and there was no reaction to tuberculin. The hair of the scalp averaged sixteen inches in length and, in addition to being somewhat harsh, dry and brittle, was very sparse. According to the patient's statement, the amount was fully fifty per cent. less than it had been four years previously. The integument was thin and bound so tightly to the underlying fascia that it was almost immovable. The skin on other parts of the body was smooth, soft and pliable.

Histopathology. For laboratory purposes, four pieces of tissue were at various times excised from the scalp, anæsthesia being obtained by preliminary blocking at a distance with Schleich's solution. The material was fixed in formaline, and stained with methylene blue (Unna-Pappenheim), Gram-Weigert, hæmatoxylin-eosin, and a serial combination of acid orcein, methylene blue, tannic acid and orange. For elastic fibres, Weigert's mixture was employed. For controls, tissue obtained, post-morten, from the scalps of two brown-haired women, aged thirty and thirty-two years respectively, was used.

The three most striking features noted in the alopecia sections were the comparative thinness of the epidermis, the condensation of the connective tissue in the corium, and the almost total absence of subcutaneous fat. In the controls, the epidermis consisted of a thick corneous stratum, a prickle-cell layer that averaged from eight to twelve cells in depth, and an unchanged rete Malpighii. The papillæ were regular in shape and varied but little in size. In both cases there were slight papillary infiltrations (probably the result of a mild seborrhœic dermatitis), and considerable numbers of cocci in the hair follicles. The vessels were normal in calibre and number, the strands of connective tissue somewhat loosely interlaced, and the sub-dermal fatty cushion thick and well developed.

In the alopecia sections, the outermost layer of the epidermis was very thin, and the underlying stratum of prickle-studded elements was only two or three cells deep. These stained well, however, as did also the rather flattened mucous layer beneath. The papillæ were much broader than normal, and some of the interpapillary processes were very long and curved. The connective tissue changes were most marked in the upper portion of the corium. While both thickening and degeneration were present, the impression given was entirely different from that suggested by a section of sclerodermatous tissue, a condition in which these two changes also predominate. The condensation was greatest in the vicinity of the hair follicles and sebaceous glands. The glandular elements were somewhat compressed, although there was no halo of round-celled infiltration or other evidence of inflammation. In some instances the pressure on the hair follicles had been so great that practically the entire appendage had undergone atrophy. This change was more marked in the follicle than in the attached gland, but in some places there was abundant evidence that these structures also suffered. In a few of the Gram-Weigert sections, microörganisms were to be seen in the follicles, but they were less numerous in these specimens than in the controls.

The elastic fibres were lessened in number in the upper corium and those present were shorter and more fragmentary than normal. Although the degenerative changes were somewhat irregular, no particular area in the papillary and subpapillary regions was exempt, all being more or less affected. There was a marked diminution in the size and number of the capillaries, particularly in the upper third of the derma. There was no periglandular or perivascular cellular infiltration, however, and no mast cells. The widely disseminated, sharply staining cell elements that are characteristic of a scleroderma were absolutely wanting. The subcutaneous fatty layer was almost entirely lacking, although the stratum of connective tissue immediately overlying it was but little altered.

Case 3.

The patient, A. G., female, housewife, aged 41 years, was referred to me by Dr. J. B. Connell, of this city.

Family History. The patient's mother at one time experienced an attack of some variety of baldness which came on suddenly and persisted for many months. The loss of hair was in the occipital region and the affected area was sharply circumscribed and perfectly bare. Consequently, it is extremely probable that the affection was alopecia areata. The patient has two children, a boy of twelve and a girl of nineteen, and both have plentiful amounts of hair. The husband has an almost total alopecia pityrodes (frontalis). His scalp is thick, loose and movable, however, and has never been adherent.

Personal History. The patient is a native of Missouri and a resident of Kansas City. She has never been vigorous and athletic, but her general health has always been good with the exception of occasional attacks of nervousness. Up to her thirty-third birthday, her hair, which was dark brown in color, was very long and abundant, extending when unloosened, almost to her knees. There has never been any appreciable scaling, or excessive oiliness of the scalp.

Present Condition. The condition for which advice was sought first began about eight years prior to the time of consultation. The thinning of the skin and tightening of the scalp developed quite early. The patient, who is an exceptionally intelligent woman, stated that the integument covering the cranium had been practically immovable for at least seven years. The loss of hair had been slow, but more or less continuous. During the past three years, the patient has experienced many severe attacks of neuralgia in the frontal, temporal and parietal regions. Sometimes one side of the head is affected, sometimes the other and, occasionally, both. During these attacks, massage, with the application of moist heat, gives the greatest amount of relief.

Examination. The patient was a slender, rather fragile woman, five feet eight inches tall, and weighed one hundred and twenty-three pounds. Her skin was soft, smooth and unmarked. The Wassermann test was negative, but there was a slight reaction to tuberculin. The hair on parts other than the scalp was normal in amount. The scalp was sparingly covered with hair of an uneven brownish color. The individual filaments were smooth and fairly strong, and there was no evidence of the presence of nodes or other irregularities. The average length was ten inches. The scalp was firmly bound down over the entire vertex and was very hard and non-compressible. The few lanugo hairs present were at the temporal margins and on the nape of the neck.

Histopathology. For microscopical purposes, two pieces of tissue were removed, one from the right anterior parietal region, the other from the left side, near the ear. In both instances the findings were practically the same, although the changes were somewhat greater in the supra-mastoid specimen. While condensation was not so prominent a feature as in Case 2, the epidermal atrophy and the glandular and hirsutic changes were more marked. The subcutaneous stratum of adipose tissue was almost entirely gone, and the derma also was considerably reduced in thickness. The epidermis in many places was only two cells deep, although the interpapillary processes were comparatively longer than those in the first sections examined. The changes observed, however, were practically identical in character, Case 3 simply representing a more advanced stage of the disease.

In all three of the cases here reported, treatment was of very little benefit, although the patients were under observation for considerable periods of time: from two months to two years. The great-

est improvement appeared to result from long-continued and rather forcible massage of the scalp, either with a heavy vibrator, or, better, with the hands.

Conclusions. Alopecia indurata atrophica is a diffuse form of cranial hair loss, characterized by vascular and connective tissue changes in the corium, with ensuing atrophy of the epidermis and hair follicles. The pathologic picture more nearly resembles that of scleroderma than of any other affection, although many of the essential features of that disease are entirely lacking.

I believe the condition to be neurotic in origin, and would place it in Group 6 of Brocq's classification, under alopecias occurring secondary to a disease involving the nerves.

It is probable that many of the instances of so-called "neuralgic alopecia" are in reality examples of alopecia indurata atrophica, and that the neuralgic condition is a secondary one and of no ætiologic significance.

In conclusion, I wish to express my deep indebtedness to Professor P. G. Unna, of Hamburg, who was kind enough to go over a large number of the sections with me, and to offer many valuable and helpful suggestions.

CORRESPONDENCE.

Death After the Use of Salvarsan.

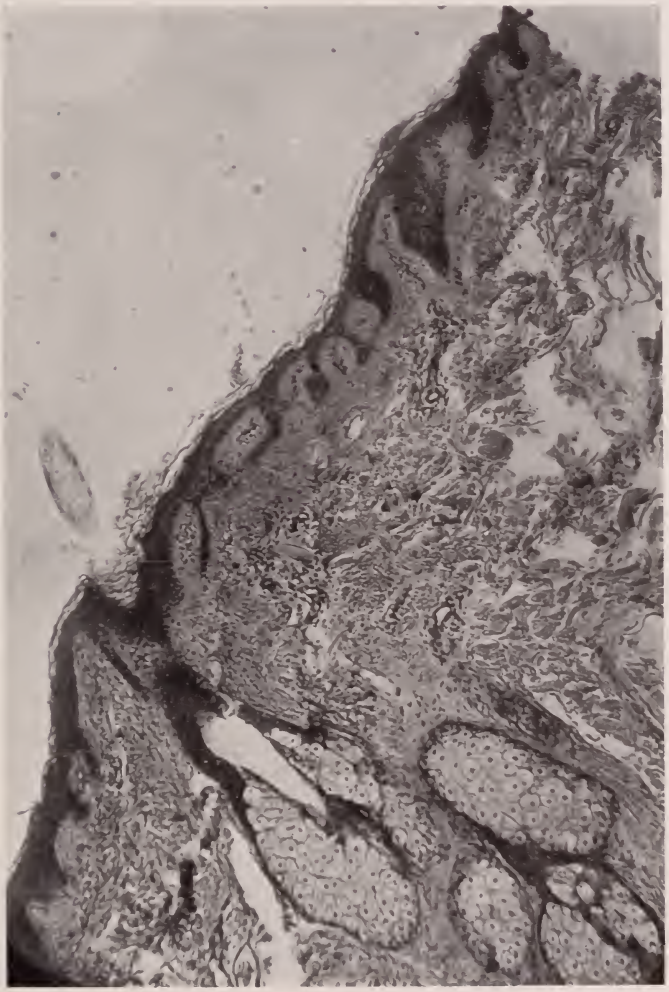
Letter from Dr. E. L. Keyes, Jr.

To the Editor:

You were good enough to publish a few random remarks of mine on the clinical aspects of the administration of salvarsan (The Journal, August, 1912). In that contribution I made some comments favorable to the acid solution of salvarsan and to the administration of this drug as an office operation. Inasmuch as I have just lost a patient from an injection of acid solution of salvarsan in my office, I consider that both you and I owe to your readers a complete statement of the facts of this case, that they may be reminded of the dangers that lurk beside the paths we tread.

As a preface I may say that I have given about 200 doses of salvarsan, very nearly 100 of them in my office, about a third of these in acid solution. Further experience, since the publication of my article in The Journal, has served to confirm my views that the acid solution of salvarsan, properly diluted, produces a reaction not materially different from that following the injection of the alkaline solution, excepting that the reaction is likely to occur immediately and thereby to alarm the patient unduly.

Inasmuch as complications similar to those of my case, reported herewith, have followed the injection of salvarsan in alkaline solution, I see no reason to



Alopecia Indurata Atrophica.
Case 3.
Showing atrophy of the epidermis and prolongation of interpapillary processes.

suppose that the acid solution was the cause of the patient's death. Perhaps, however, I have insisted too strongly upon the freedom from inconvenience of the *office use* of salvarsan. No larger percentage of cases injected in the office suffers a reaction than those injected in the hospital, nor does the reaction in the one case appear to be more severe than that of the other.

Indeed, of all my cases injected in the office only three have required the services of a physician. Yet severe vomiting and purging may result from any injection and, therefore, the patient should never be sent away to a domicile where he will be quite unattended. The inconveniences of such a situation are illustrated in the following case:

The patient, a tall, athletic, healthy-looking man, 25 years of age, called at my office on May 18, 1912.

Previous history. Slight enlargement of the glands under the angles of the jaw since infancy. Chronic discharge from both ears for a number of years.

Present history. The tonsils had been swollen and sore since March. A few days ago he noticed some spots upon his skin. A triple-positive Wassermann was obtained by a competent pathologist.

Physical examination. Both tonsils were large and covered with ulcers. The body was covered with a papular syphilide. The inguinal and cervical glands were enlarged. No trace of the initial lesion could be discovered. There was a profuse, purulent discharge from both ears, but the hearing was not gravely impaired. The urine contained no albumin nor sugar; no pus, blood nor casts. The patient was promptly sent to a hospital, where four decigrams of salvarsan were administered intravenously, in alkaline solution. He suffered no reaction, had no rise of temperature, vomiting or diarrhœa. He left the hospital and the city the following day, and ten days later I learned that he was suffering from high fever and great swelling of the tonsils, though in the meanwhile his throat and skin lesions had healed.

I advised that he consult a local physician, and under treatment the fever and tonsillar disturbance disappeared in 24 hours. His mother subsequently informed me that about this time the patient's skin and conjuctivæ were yellow.

On June 5th, eighteen days after the first injection, he returned for the second one. This dose was given in the office, in acid solution, with freshly distilled water. I opened a fresh tube of six decigrams of salvarsan, dissolved this in 300 cc. of water, used half of it for this patient, and set aside the other half, which I administered in alkaline solution, half an hour later, to another patient. This second individual suffered no reaction whatever.

The first patient, however, became a little flushed and faint at the close of the injection and complained of slight nausea. I therefore bade him recline in peace until this feeling should leave him. On returning to the room about fifteen minutes later, to learn whether all was well, I did not find him and supposed that he had returned to his family, with whom I believed he was staying. But at ten o'clock the next morning (the injection having been given at 6 P.M.) I learned that he was staying with some college friends in a small apartment, where he had arrived in a dilapidated, nervous, and nauseated condition. He vomited and purged all night and became dilirious in the early hours of the morning.

During that day he was twice visited. When first seen, at about 11 A.M., he was stuporous and had a pulse of about 140, scarcely perceptible at the wrist. The delirum had passed, the nausea and purging were much less, but the coffee and water which his friends were advised to give him, he could not retain. Nevertheless, when I saw him, at 11 P.M., his pulse had dropped to 120, he could be aroused much more easily, and his bowels had moved but three or four times

during the day, whereas he had only vomited twice or thrice. At this juncture I was called away from town.

The following morning the physician left in charge thought him much better: His pulse was 110; he was still irritable and unreasonable; he had not been able to retain anything on his stomach, but the stupor had left him and he promised well. In this state he was transferred to the hospital, where one grain of calomel in divided doses was given, followed by a saline.

The temperature on admission was 100° F.; pulse 110, and he was covered with a toxic erythema. The urine showed a specific gravity of 1032 and contained a trace of albumin, but no casts. The calomel started up a renewed diarrhœa of a watery sort which was promptly controlled by colon irrigations.

On the third day after the injection the patient's stomach still rejected all food, but his temperature had fallen to normal, his pulse to 76 and 80, his diarrhœa had stopped. That afternoon he complained of pain over his liver and began to be jaundiced. On the other hand, his tongue had become quite dry; colon irrigations were continued, and he managed to retain a little water.

On the fourth day he was a little more drowsy; his tongue drier. Up to this time no precise record of the amount of urine passed had been kept, the hospital authorities simply noting that the patient urinated every 8 hours. On this day, however, he urinated four ounces at 9 A.M., and never voluntarily passed any urine thereafter.

That afternoon the dryness of his tongue was markedly increased. He relapsed into his stupor, his pulse went to 100 and 110 but was regular and full. His erythema was disappearing; the jaundice was increasing.

Up to this time his treatment had practically consisted in colon irrigations and the administration of water by mouth in small quantities. At 11 P. M. he was catheterized; about 20 cc. of urine were obtained of a specific gravity of 1032, yellow with bile, and containing a large percentage of albumin, many granular and epithelial casts and 0.6 per cent. of urea. Two hot packs were given during the night and by morning the tongue was much less swollen, the pulse had dropped to 80 again and the patient's mental condition was much improved.

On the morning of the fifth day I returned to town and found the patient with a pulse of 80, perfectly comfortable, excepting for his dry and swollen tongue, somewhat drowsy but entirely conscious, able to sit up in bed and drink water, which no longer nauseated him, but occasionally made him hiccough for a few minutes. He had vomited only twice the day before; 35 cc. of bile-stained urine were obtained by catheter at noon. This contained 0.3 per cent. of urea and was otherwise identical with the specimen obtained the night before. Every 12 hours thereafter, up to the time of his death, about the same amount of urine was obtained by catheter (never less than 25 or more than 45 cc. and containing 0.3 to 0.6 per cent. of urea). A single hypodermoclysis of 250 cc. of saline solution was administered. Six ounces of salt solution were administered by rectum every two hours and the patient encouraged to drink freely of water up to within 12 hours of his death. He retained all this fluid, retaining as much as 70 ounces of water by mouth in a day.

Two to three hot packs were given daily and to these the patient responded by profuse perspiration. An organic extract was administered, at the suggestion of Dr. Beebe, every alternate hour up to the time of the patient's death. On the evening of the fifth day the patient's condition was apparently much improved, both tongue and skin were much better; temperature and pulse normal; intelligence clear; conscious; and nausea subsided; but the renal action did not improve.

On the sixth day matters were about as they were on the morning before, and the blood pressure which had been about 130 and 140 up to that time, rose to 167 at 9 A. M., and 174 at noon. Five hundred cc. of blood were then withdrawn and 250 cc. of saline solution injected into the vein. The blood pressure then fell to 165. On the morning of the following day conditions were the same, with the exception that œdema of the lungs appeared. The patient became restless and in spite of the injection of nitro-glycerin and cupping of the back, the respiratory difficulty became more and more marked.

In the face of imminent dissolution, the family called in an osteopath who manipulated the patient rather vigorously. A few minutes later the patient died, in the afternoon of the seventh day after the injection of the second dose of salvarsan. No autopsy was permitted.

In the three days that have elapsed since the patient's death, I have administered in my office four doses of salvarsan (0.3 gm. each) in alkaline solution.

Yours very truly,

EDWARD L. KEYES, JR.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Feb. 27, 1912.

HERMAN G. KLOTZ, M.D., *President*.

Tuberculosis of the Skin (?). Presented by DR. JACKSON.

The patient was a boy eight years of age. There was said to have been no history of tuberculosis in the family. The only remarkable fact in the history of the case was that the boy did not speak until he was six years old. His general health was good until two years ago, when he had measles. The present trouble began in April, 1910, when an inflammatory lesion was found on the right side of the sternum. It was supposed to be a scratch by a cat. It did not heal, but continued to spread from this lesion as a centre, with a well-marked, raised edge. As it spread, the skin within the border cleared up. When presented, the patient's condition was as follows: The boy was anæmic, had a hoarse voice, and did not seem to be mentally sound. The intermammary portion of the anterior surface of the chest and both shoulders were involved in the diseased area. The border of the area was a broad line, half an inch wide, raised, red and crusted. At the edges of this border, in different places, round ulcers were seen, about the size of large peas. They were punched out, and looked like ulcerated syphilitic tubercles. The area within the border had been converted into a delicate cicatrix, showing many small pea-sized depressions and not a few typical lupus

tubercles. The lymphatic glands in the neck were decidedly enlarged. There was also a small papular eruption over the abdomen and back.

Dr. Sherwell said that it seemed to be a marked type of what Hebra termed lichen scrofulosorum.

Drs. Schwartz and Elliot agreed with the opinion expressed by Dr. Sherwell.

Dr. Howard Fox agreed with the diagnosis of serpiginous tuberculosis. With regard to the small papular eruption, he doubted the diagnosis of lichen scrofulosorum. It certainly did not correspond with two cases he had studied nor with the usual text-book descriptions. In these cases the lesions were grouped chiefly about the lateral aspects of the chest and did not show the marked evidences of itching as seen in the present case.

Dr. MacKee said that he agreed with the remarks made by Dr. Howard Fox. He suggested that both the papular eruption and the erythema might be secondary to the ulcerative lesions. He thought also that lichen tropicus should be considered.

Hereditary Syphilis. Presented by Dr. MacKee for Dr. Fordyce.

The patient was a baby six weeks old. It was covered with a bullous eruption and had many excoriations of the buccal mucosa. "Snuffles" was a very marked symptom. Two years ago the brother of this child, who was then about two years of age, was brought to Dr. Fordyce's clinic with multiple tumors of the tongue which disappeared after prolonged anti-syphilitic treatment. Both the children and the mother gave positive Wassermann reactions. The speaker called attention to the fact that the first child suffered from very slight symptoms of syphilis while the second child, who was born two years later, presented very marked evidences of hereditary syphilis. This was, the speaker thought, contrary to the general rule.

Dr. Winfield said that in regard to any rule as to the severity of the disease in the first or second born, he had known cases where the third child showed more symptoms than the first.

Dr. Kingsbury recalled a family with a syphilitic mother where the eldest daughter, twenty years of age, was in good general health but who presented nodes over the tibia. A younger child, a boy of twelve, had marked destructive bone lesions and a saddle nose. A still younger boy had even more marked destructive evidences of the disease and the last child born in this family, died in infancy as a result of hereditary syphilis.

Pityriasis Rubra Pilaris. Presented by Dr. Whitehouse.

Dr. Whitehouse said that this patient had been shown before the Society before, but that he brought her again in order that the members might see the effect of chrysarobin treatment on the disease. The girl was ten years of age, and the disease developed when she was a year old. The urine showed nothing of any consequence. The blood count showed: white cells, 7,000; polynuclears, 74 per cent.; small mononuclears, 20

per cent.; large mononuclears, 4 per cent.; eosinophiles and transitionals, 2 per cent. No dermatitis followed the application of the chrysarobin (10 per cent. ointment in vaseline) and she had improved very much under that treatment.

Dr. Elliot recalled the case of a young woman, twenty-five years of age, who had a typical case of pityriasis rubra pilaris, and her brother was afflicted with psoriasis. The pityriasis rubra pilaris disappeared under treatment. Dr. Elliot did not see the patient again for several years, but finally she returned with a typical attack of psoriasis, so it would not surprise him to see this case undergo improvement under treatment for psoriasis. Then, too, it should be remembered that these cases often recovered spontaneously. As far as the age of Dr. Whitehouse's patient was concerned it was nothing unusual. He had a case where the patient was only a year and a half old when it began.

Dr. Whitehouse agreed with what Dr. Elliot had said about the treatment for psoriasis, but arsenic, which influenced psoriasis very well, had absolutely no effect on pityriasis rubra pilaris. He also had seen the disease get well spontaneously and then recur. The girl said that she had had the condition all her life.

Acute Lichen Planus. Presented by Dr. Whitehouse.

The patient was a woman, forty-seven years of age. Her cutaneous trouble began a week ago on the right cheek and within a few days the eruption spread over the face, body and limbs. There was considerable erythema, especially of the face; there were hæmorrhagic papules on the body. The typical lichen planus papules were present, but they were so flat, so close together and there was so much erythema that it was difficult to see them. She stated positively that the first lesion appeared on the cheek, a location where one would hardly expect to see lichen planus. There was no evidence of the disease in the mouth. The patient had been taking sulphur baths up to the time the lichen planus developed.

The diagnosis was generally accepted.

Dr. G. H. Fox said that he had seen cases of acute lichen planus which came on suddenly. In such instances one was likely to find inflammatory papules unlike the ordinary lesions of lichen planus, and the eruption often bore a resemblance to a copaiba rash. So far as he could remember, the eruption, in these cases disappeared almost as quickly as it came. He agreed with Dr. Whitehouse's diagnosis.

Dr. Jackson referred to what had been said of the effect of sulphur baths in developing the eruption. He had a patient who claimed that her eruption came out very rapidly after a strong soda bath.

Case for Diagnosis. Presented by Dr. MacKee.

This patient was from the service of Dr. J. A. MacIsaac in the New York Nose, Throat and Lung Hospital. The man was a Greek by birth, twenty-eight years of age, and a shoe-polisher by occupation. His

family and past histories failed to throw any light on his present trouble. Six months ago an ulcer developed on his left cheek. A similar lesion then appeared over the right masseter muscle. The glands of the neck and chest next became involved and finally ulcerated. The lesions developed like the so-called cold abscess of tuberculosis. A tumor would appear, this would undergo liquefaction and finally rupture, giving origin to an ulcer. The Wassermann reaction was negative while the von Pirquet test was positive. The blood examination was negative and cultures from the lesions had failed to give any result. Pus from one of the lesions was injected into the peritoneal cavity of a guinea pig a few days previous to the presentation of the case. The result of this inoculation would be given to the Society at its next meeting. The speaker said that he thought the diagnosis rested between tuberculosis and syphilis.

It was quite generally agreed that it was a tuberculous condition.

Nævus Lipomatodes. Presented by Dr. Howard Fox.

The patient was a boy, twenty-two months old, born in the United States. No other member of his family suffered from similar lesions. He presented large, soft, lipomatous masses about the breasts and neck, left forearm and arm, and right elbow, giving the appearance of a person with enormous muscular development. The chest measured twenty-three inches, the right arm eight inches, the left elbow ten inches and the calves but six inches in circumference. Some of the masses about the neck were partially angiomatous, being somewhat compressible and presenting a bluish color of the overlying skin. Upon the left side of the chest there was an ordinary nævus vasculosus of about five inches in diameter. Upon the back were two small, globular, hard, elastic tumors the size of a cherry attached to the skin, and movable upon the deeper parts. The patient was a fairly strong and apparently healthy child.

Lepra Tuberosa. Presented by Dr. Whitehouse.

Dr. Whitehouse stated that the patient had been previously presented before the Society by Dr. Fox. The patient was a man forty years of age. He was born in Russia and came to this country fifteen years ago. The disease dated back about ten years, beginning with lesions in the nose and throat which kept up for four or five years. Six and a half years ago he had gastro-intestinal trouble, with fever at times. Five and a half years ago he had burning sensations in the arms and legs and considerable pain and loss of weight. The eruption itself began about five and a half years ago as tubercles the size of small beans on the back. He was presented to show the great improvement under the administration of chaulmoogra oil. He was given four decigrams of salvarsan intramuscularly on Jan. 5, 1911 and two decigrams of salvarsan intra-

venously on March 30, 1911. The former made him very sick for three or four weeks, but the latter was without any reactionary effects to speak of. There was some healing of the nasal ulcers after the first dose, but they soon relapsed; the second dose produced no effect of any kind. On Dec. 12, 1911, he received 5 decigrams intravenously with no systemic reaction, but it did stir up the nodes in his arms and legs. They would swell up and become inflammatory, and then subside again. On February 15th, he was given the fourth injection of five decigrams intravenously. The lesions again showed the inflammatory reaction. The roof of the mouth was still affected in the form of an extensive, flat plaque and he still had ulcerations in the nose and when first under observation three years ago, bacilli were demonstrated from a scab taken from the throat and nose. Since giving up the chaulmoogra oil, he had had increasing doses of tincture of nux vomica three times a day. The Wassermann reaction was now negative, though it was positive before the first salvarsan injection was given. Dr. Whitehouse said that he had two objects in presenting this case; one to show the improvement under chaulmoogra oil, and the other to show the stimulating effects of salvarsan. He also wished to promote some discussion as to what should be done with these cases. This patient had now been in the hospital in a small ward of seven beds for two and a half to three years sitting around in his chair with little opportunity to get out. Some types of this disease did not seem to be contagious, others possibly were. This man certainly did not get the out-of-door exercise and hygienic treatment that he required.

Dr. G. H. Fox said that years ago he had reported a case of lepra apparently cured, and had laid stress upon the physical treatment of the disease. That was a point that was often lost sight of. If any one was to be told that he had leprosy, and was then put in a pen and treated as an outcast, and told by physicians that there was no hope of recovery, a fatal result was almost certain. If, on the other hand, a case of lepra was treated in this climate, where the disease tended to get better, and was given plenty of fresh air and some hope of recovery, and was given chaulmoogra oil, which acts almost as a specific remedy for the disease, the chance of curing the condition would be very fair. Dr. Whitehouse's patient had been under the speaker's care for some time at the Skin and Cancer Hospital, and he was treated with various general and local remedies with no effect, but as soon as he was put on chaulmoogra oil and sent out of doors once or twice a day he began to improve. Dr. Fox said that he was surprised to see that the patient's forearm was in a comparatively normal condition. The improvement, which was undoubtedly due to the chaulmoogra oil, was very striking.

Dr. Sherwell agreed with what Dr. Fox said, and did not see the necessity for the rigid segregation. Certainly in the Louisiana Lepra Home which he had visited, the patients received all the benefit that Dr. Fox had spoken of, and the improvement in their condition was often very marked.

Dr. Howard Fox thought that a general hospital was not a suitable institution for the treatment of such a case of leprosy as this one. In the first place,

the patient failed to receive as much benefit as would result from an out-of-door life and in the second place such a case was a possible source of danger to others. Indeed, if any case of leprosy could be a source of infection it would be a patient like the present one, with extensive ulceration of the mouth and throat. Dr. Fox thought such cases should be treated in an out-of-door institution such as the Lepra Home in Louisiana, under the charge of Dr. Isador Dyer. He firmly believed that the treatment of lepers should be undertaken by the National Government and not by individual States.

Dr. Winfield said that Dr. Whitehouse had brought up a very important point. The speaker agreed with Dr. Dyer that leprosy was not such an innocent disease in this climate and that lepers were a menace in a general hospital. Either the City, State or National Government should look after these cases. Some one should take charge of them and keep them under observation. The speaker said that he knew of six or seven cases of leprosy in Brooklyn, most of whom were at large. He had a Japanese leper in his service at the King's County Hospital. It was one of the worst cases he had ever seen. Chaulmoogra oil and nux vomica in increasing doses were given with the result that the lesions practically disappeared.

Dr. Elliot said that he would like to ask if Dr. Winfield knew of any case of contagion which had taken place in New York City. He had had, in the Charity Hospital in New Orleans, considerable experience with leprosy. A number of cases were in the neurological ward, which was the best place for them, and he never knew of a case contracted there. He also had others in the female surgical ward, which were dressed twice a day by the nurses, and he had never known of its being transmitted. Syphilitics by the thousands were allowed to walk the streets of New York, and they were taken into the wards where only one touch might communicate the infection to a patient. And yet, we would go into hysterics about the lepers. To the speaker this seemed a great inconsistency. The way a real or supposed case of leprosy was dealt with by the press and the public was the most inhuman and barbaric treatment imaginable.

Dr. G. H. Fox said that he could not agree with the views of Dr. Winfield. Leprosy might be theoretically a menace to the community, but practically it was not so in the slightest degree in this locality. There had never been a case of leprosy contracted in this climate. The speaker said that chaulmoogra oil was usually given with milk of magnesia, but that he had found that the best method was to give it with glycerine and compound tincture of cardamon, which made it a more palatable mixture.

Dr. Winfield said that the mixture which Dr. Fox recommended was used in one of his patients and it did not prove satisfactory. The patient could take the milk of magnesia but not the other mixture. He agreed with what had been said about never having seen or known a case contracted in this country, but neither did we know the period of its incubation.

Dr. Whitehouse thanked the members for the discussion and expressed himself as agreeing with pretty much everything that had been said. There was leprosy and leprosy, however, and he thought that it was positively inhuman to segregate a man, as in the case of John Early who was suffering from the macular and anæsthetic forms of the disease, types admittedly non-contagious. On the other hand, it seemed questionable if cases with lesions in the throat showing the lepra bacillus, should be shut up in a ward with other patients. The uncertain time of incubation of this disease should be taken into consideration when the question of infection was considered.

Favus of the Nails. Presented by Dr. Trimble.

The patient was a man, twenty-eight years of age, of Italian birth. The condition had existed for three years. The nails were diseased for about half the distance from the free border. They were thinned and discolored, taking on a livid appearance. A large amount of detritus raised the nail from its bed, giving it a tilted appearance. The clinical diagnosis had been confirmed by microscopical findings.

Lupus Erythematosus. Presented by Dr. Trimble.

The patient, a young man of twenty-four, had had the condition for a year. It might be considered as a border-line case between the fixed and disseminated types of the disease. The lesions were typical and were located on the face, neck, chest and shoulders. They were numerous and had remained fixed for a year. The patient gave a history of having had syphilis seven years ago, but the Wassermann reaction was negative. His family physician claimed to have found a diseased area in one lung several years ago. The patient had had one dose of salvarsan.

Acne Varioliformis. Presented by Dr. Kingsbury.

The case was one of four months' duration. The scalp, forehead and nose of the patient were pretty well studded with the lesions.

Epithelioma of the Lower Lip. Presented by Dr. MacKee.

The man was a private patient, thirty-two years of age. He was married and had had no children. His wife had had no miscarriages and there was no history of syphilis. The lesion on his lip made its appearance three years ago when the patient was twenty-nine years of age. It began as a spot of keratosis on the right side of the lower lip. This gradually spread until the entire lower lip became involved. When the patient was first seen, six months ago, the right side of the lower lip was markedly indurated, thickened and ulcerated. The left side of the lip possessed no deep induration, but the surface was very rough, hard and keratotic. There were no palpable glands. Both the tuberculin and Wassermann tests were negative. Dr. Howard Fox who had seen the case concurred in the diagnosis of epithelioma. The patient was given one single-dose application of the X-ray, after which the speaker did not see him for two or three months. As a result of this one treatment the left side of the lower lip was entirely recovered, being perfectly smooth and soft, while the right side had undergone considerable improvement. The patient would receive the benefit of more X-ray and would be presented at a future meeting of the Society. The speaker was of the opinion that this case was inoperable on account of the enormous amount of tissue

that would have to be removed and he also stated that if the technique were correct, a great many, if not a majority of these cases, could be cured by the use of X-radiation. In connection with this case Dr. MacKee demonstrated the apparatus for estimating the quality and quantity of ray used in the single-dose method. The apparatus and instruments consisted of the Benoist radiochromometer, filtration pads of chamois and aluminium, and the Holzknecht and Hampson color indices.

Neurofibromata. Presented by Dr. Kingsbury.

The patient was a man thirty-two years of age. He was born in Italy, but had lived in this country for many years. He was anæmic, poorly nourished and considerably under weight. For the past eight years he had been troubled with severe epigastric pain. This was irregular, at times being absent for months. The man was convinced that his "stomach trouble" had some association with the tumors. These first appeared on the back during childhood and gradually increased in number and size. Scattered over the trunk and extremities were innumerable tumors varying in size from a pea to a small hen's egg. The growth of some had not been noticeable, while others had been slowly progressive. Occasionally new lesions appeared; one on the right side of the cheek had been present for two months. A large tumor had been on the abdomen for ten years and for several years past there had been no appreciable change in its size. A tumor on the forehead, the size of a marble, had been present for two years. There were several tumors on the lower lip and on the glans penis. These were of a purplish color and resembled small angiomata.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting of the Philadelphia Dermatological Society was held in the College of Physicians Building, on May 8, 1911.

Dr. C. N. Davis, *President*.

Squamous Syphilide of the Hand. Presented by Dr. Hartzell.

The patient, a fireman of forty years, had been treated for some years for the present condition and the eruption had been absent for but a few months during this period. Over fifteen hundred mercurial pills had been consumed with but a transitory cure. The patient had been treated for the last two months with injections of sodium cacodylate, one grain every other day. The condition had been somewhat benefited by the new treatment.

Rosacea of Unusual Appearance. Presented by Dr. Frescoln.

A woman of twenty-one years presented an eruption of seven months' duration upon both cheeks. The condition resembled markedly an erythematous lupus.

Pellagra (?). Presented by Dr. Stelwagon and Dr. Gaskill.

A mulatto of twenty-two years, a waiter by trade, born in Virginia, presented a curious outbreak upon the skin of six weeks' duration. A marked dermatitis was present upon the hands, of a dusky-red color, iodine-like, with a zig-zag, notched border, sharply marginated, a collar-like effect. The tips of the elbows, the axillæ and the popliteal spaces exhibited keratotic patches. A mottling was noted upon the trunk, alternating white and pigmented areas. Pigmentation and keratosis was also noted at the points of pressure, such as at the site of the collar button, the garters, etc. There was anæsthesia of the pharynx. There was no diarrhœa nor mental symptoms.

Dr. Hartzell referred to the anæsthesia of the pharynx, as pointed out to him by Fritz, in a recent trip to Italy.

Case for Diagnosis. Presented by Dr. Stelwagon and Dr. Gaskill.

Ten months ago, according to the history given by the patient, a male of thirty-two years, a chancre appeared, followed some weeks later by a generalized eruption. When presented to the Society he had a generalized eruption of a miliary type. There were also ringed and flat lesions of a few days' duration upon the hands. There was a split-pea to dime-sized, bright-red, somewhat telangiectatic eruption upon the cheeks, the nose, the forehead and behind the ears. The latter outbreak was of six weeks' duration.

Dr. Hartzell thought the eruption on the face was possibly an ill-defined type of lupus erythematosus.

Lichen Planus, Followed by a Bullous Eruption, Probably Erythema Multiforme. Presented by Dr. Davis.

The patient first came under the care of Dr. Davis in February, at which time the thirty-nine year old woman presented a split-pea sized, umbilicated, flat, papular eruption, of four months' duration, typical of lichen planus, upon the palms of the hands, the forearms, the legs, the chest and the buttocks. The latter part of March, the lichen planus outbreak having responded favorably to treatment, vesico-bullous lesions appeared. The latter eruption became generalized in distribution, excepting for the scalp, the genitalia and the mucous membranes.

Tertiary Syphilis Resembling Lupus Vulgaris. Presented by Dr. Davis.

A woman of twenty-eight years gave the history of having had the start of the present outbreak eight months previously. Shortly after the

appearance of the eruption upon the nose and the cheeks she had consulted physicians who had diagnosed the case as one of lupus vulgaris and instituted all kinds of local treatment. Unfortunately, a dermatologist had not been consulted and after getting progressively worse she came to the skin dispensary of the Pennsylvania Hospital. A palm-sized, irregularly angular area was present and all of the soft parts of the nose had been destroyed as far back as the bony septum. At the time of presentation, the ulcer had almost entirely healed under potassium iodide given internally. Without the history, however, it would have been very hard to distinguish the healed lesion from the nasal deformity from the result of the destructive action of lupus vulgaris.

Dr. Knowles presented a photograph showing the condition before the inauguration of the treatment.

Keratosis Senilis and Epithelioma. Presented by Dr. Pfahler.

The patient, a male of sixty-five years, a gardener, exhibited keratotic areas upon the dorsal surfaces of the hands and a typical epithelioma upon the right ear. According to Dr. Pfahler the keratotic areas were of an acute onset.

Tinea Versicolor in a Mullato. Presented by Dr. Davis.

The case was exhibited because of the infrequency of this type of eruption being observed in one of this race. The patient was twenty-two and had had this typical eruption, chiefly upon the abdomen, for two years.

Case for Diagnosis (Previously Exhibited). Presented by Dr. Gaskill.

The case exhibited at the meeting two months ago was again presented and the papular condition surrounding the meatus of the penis was practically in *statu quo*. Although various medications had been employed the condition had not been improved.

Pemphigus Vegetans (Previously Exhibited). Presented by Dr. Stelwagon and Dr. Gaskill.

The present patient, a male of thirty-two years, was presented by Dr. Stelwagon at the last meeting of the Society. At that time there were a dozen or more reddish plaques upon the abdomen and the upper part of the back, some of which were discharging serum. The condition resembled somewhat an irritated eczema seborrhœicum. When presented the second time, the condition was noted to be more general in distribution and the lesions more numerous. The eruption still gave the suggestion of seborrhœic eczema.*

*Subsequent history: On the thirteenth of May, five days after the meeting of the Society, two spots were noted over the sternum, approximately two and one-half inches in diameter, raw, slightly crusted, oozing and surrounded by an area

PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting of the Philadelphia Dermatological Society was held in the College of Physicians' Building, October 9, 1911.

Dr. C. N. Davis, *President.*

Urticaria Pigmentosa. Presented by Dr. Hartzell.

A little girl of nine months of age was presented with an eruption which had started two weeks after birth. The outbreak was general in distribution and the pigmented lesions were unusually large and very numerous. Confluence in fact was so great in certain areas that almost continuous sheets of pigmentation were noted. The face as well as the trunk exhibited a very marked involvement. Numerous wheals were noted and the response to stimulation with blunt instruments was very marked. The itching was intense. The child, however, was plump and apparently in the best of health.

Lupus Vulgaris Resembling Eczema. Presented by Dr. Stelwagon.

A woman of fifty-nine noted the development of the present eruption eighteen years ago. Two patches were observed, one double palm in size upon the right knee, and the other palm in size on the central portion of the forehead. The lesions were decidedly eczematous in appearance. Apparently there was some nasal involvement. There was no cough. The patient had been under treatment for some months with the X-ray, considerable benefit accruing.

Lymphangitis of Lower Lip. Presented by Dr. Davis.

The patient, a male of thirty-two years, first noticed the enlarging of the lower lip seven months ago. The lip was now swollen to almost double the usual size; it was redder than normal and had a slightly glazed appearance.

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of small papules. There were six lesions upon the back one-half to one inch in diameter and covered with a thick brown crust, under which was a considerable amount of exudation. The patient was admitted to the Jefferson Hospital three days later with a papulo-vesicular eruption of the trunk and the thighs. Three small bullæ were also noted. The itching was intense. On May 25th, the back and the chest were covered with both large and small blebs. A very large bulla, three inches in diameter was noted over the scapular region. Both axillæ, the groins, the popliteal spaces, and the plantar surfaces of both feet were covered with small blebs. The ankle exhibited a large bleb, three inches in diameter. Bullæ had also appeared in the mouth and the nose. The temperature was 98°F., the pulse 108 and the respiration 26 per minute. The condition had steadily and progressively grown worse, and the vegetations made the case a clear example of pemphigus vegetans.

Frank Crozer Knowles, M.D., *Reporter.*

Dr. Hartzell thought that not only a lymphangitis was present, but also inflammation of the mucous glands. He referred to a case resembling the one under discussion which had recently been treated with the X-ray by Dr. Knowles and himself.

Dr. Davis mentioned that he had had four cases of this character, the other three attacking the upper lip.

Keloid Following Cupping. Presented by Dr. Hartzell.

Last March the present patient, a female of thirty-one years, was cupped, because of pleurisy, with a whiskey glass containing alcohol. Evidently the patient must have been burned at that time, as she stated that the pain at the time of application was excruciating. Soreness had remained at the sites of application up to the present time. There were three absolutely typical keloidal scars on the right side of the trunk, just above the margin of the ribs; one was absolutely round but the other two showed only a partial ring, as the glass evidently was applied with uneven pressure. The patient was white. Last June syphilis also developed and a secondary papulo-squamous eruption with mucous patches in the mouth and the other symptoms of the disease were present.

Dermatitis Herpetiformis (?). Presented by Dr. Schamberg.

A middle-aged woman was presented with an eruption of some ten years' duration. The lesions were scattered more or less generally over the cutaneous surface. Papules and vesicles were the predominant types of lesions noted. There had been repeated outbreaks of the lesions. A somewhat ezematous eruption was noted upon the face. The tendency to grouping of the lesions was not a marked characteristic. The itching was intense.

Grain Itch. Presented by Dr. Gaskill.

A woman of sixty-two years presented a typical eruption of two weeks' duration. The outbreak was most marked upon the lower portion of the back and the extremities. The eruption was extremely pruritic, especially at night. The history was obtained of sleeping on a new straw mattress.

Lymphangitis Resembling Sporotrichosis, Following a Rat-Bite. Presented by Dr. Knowles.

The patient, a male, born in Poland, forty-eight years of age, was bitten by a rat on September 11th, on the index finger of the left hand. The injury of the finger was followed by a lymphangitis extending up the arm. There were now eight hazel-nut-sized swellings, some hard and others fluctuating, extending from the wrist to the bend of the elbow, following the course of the lymphatic system. These tumors were of a

reddish-blue color, some of the cold-abscess type and the others with an acute inflammatory appearance. The injury of the index finger was healing. As the patient was seen for the first time on the day of presentation, no bacteriological report could be obtained. The resemblance to some of the reported cases of sporotrichosis was marked.

Sycosis Vulgaris Treated with the X-Ray. Presented by Dr. Pfahler.

The patient, a male of thirty-three years, had had this disease for six years, the bearded region showing extensive involvement. Various therapeutic measures had been instituted without benefit. Ten applications of the X-rays had been applied during the last three months, causing a mild dermatitis, loss of hair and the disappearance of the disease.

Verrucæ Treated with the X-Ray. Presented by Dr. Pfahler.

During the past few years, the present patient, a male of thirty-seven had had multiple warts on the face, affecting the bearded area. X-ray treatment had removed the warts, but they had developed on other areas.

Inoperable Carcinoma. Presented by Dr. Pfahler.

A female of thirty-seven had had a tumor of the breast for five years. The tumor was pronounced as inoperable by Dr. John B. Deaver and referred by him to Dr. Pfahler. The patient, at the time of coming under the exhibitor's care, July 17, 1911, presented a large, ulcerating carcinoma of the right breast about six inches in diameter. The axillary and the supraclavicular glands were markedly enlarged. When presented to the Society, there were no palpable glands in the axilla nor in the supraclavicular region. The tumor also had been reduced to about one-tenth of its original size. Her general health had markedly improved. At no time had there been a dermatitis. She had been treated almost daily, the tube being ten inches away. A leather filter was used in the application of the rays.

Carcinoma Treated with the X-Ray. Presented by Dr. Pfahler.

A male aged fifty-five years was referred to Dr. Pfahler by Dr. John B. Diom in August, 1911. Five years ago the right breast was amputated for cancer. During the past year his arm became swollen to twice its normal size and a mass was noted in his right axilla the size of a large hen's egg and a smaller growth in the right supraclavicular region. When presented to the Society, the swelling in the supraclavicular region could not be felt and the axillary metastasis was about one-eighth its original size. He had been given about one hundred treatments of twenty minutes each, the tube being ten inches from the skin.

Epithelioma of the Tongue Treated with the X-Ray. Presented by Dr. Pfahler.

The patient, a male aged seventy-one years, was referred by Dr. Janett, because of an epithelioma under the tongue of three months' duration. The growth at the inauguration of treatment was one and one-half inches long and an inch in width. Fulguration was first administered and since then the X-rays had been used daily. The growth appeared to be healing.

Raynaud's Disease (?). Presented by Dr. Finck.

A male of twenty-eight gave the history of having had the start of the present condition about twenty years ago, but only during the last eight years had the symptoms been marked. The hands, the feet, the nose and the ears were affected. There were redness, some swelling, itching, burning and pain. The condition was much worse during the cold weather. Because of the circulatory condition superficial ulcerations and vesicles had been noted, as well as a shedding of the finger nails. On pressing the skin of the hands the color diminished rapidly and reappeared very slowly, showing the blood statis in the affected parts. The application of cold water seemed to lessen the pain and the burning. The patient was a cloth cutter by trade and, fortunately, not exposed to extremes of temperature.

Dr. Hartzell referred to a case of a somewhat analogous character that he had recently seen.

Nævus Pigmentosus. Presented by Dr. Frescoln.

A woman of twenty-eight years presented upon the right temporal region a very curious birth-mark. The affected area was palm in size and resembled the foot of a chicken, the similarity being remarkable. She considered prenatal maternal impression the cause of the condition. Her mother had seen a chicken stepped upon shortly before the birth of the present patient.

Dr. Hartzell suggested carbonic acid snow for the removal of the growth.

Dr. Pfahler thought fulguration would prove most efficient.

Epithelioma of the Lip. Presented by Dr. Davis.

A male of thirty-three years presented a silver-dollar-sized growth, with a papillomatous surface, occupying the central portion of the lower lip. The lesion had existed for eleven months. Because of the papillomatous appearance smears had been taken and a section examined for blastomycetes, but there had been no positive findings. The patient was an inveterate smoker and was in the habit of chewing tobacco almost constantly.

Dr. Hartzell said that he thought excision offered the best result in the present instance.

Keloid Following Excision of a Vaccination Scar. Presented by Dr. Knowles.

The patient was a girl of sixteen years who had developed a keloidal elevation upon a vaccination scar. In August of last year this scar was excised. Two months after the excision keloidal changes developed. When presented to the Society, there was a raised, red scar three inches in length by an inch in width at the widest portion. The twelve stitch holes were also raised considerably above the surface and exhibited the same keloidal change.

Multiple Areas of Tuberculosis in a Child. Presented by Dr. Knowles.

A child of four years had had for some months four areas of new growth; two on the cheeks, one on the wrist and the other on the right upper thigh. The Wassermann test was negative, while the von Pirquet reaction was extremely marked. The areas varied from dime to palm in size. The surface was somewhat papillomatous, reddish-yellow in color and clinically gave a clear picture of the verrucous form of tuberculosis of the skin. A biopsy was made which, unfortunately, exhibited only an inflammatory change in the skin and no characteristic histological arrangement.

Those present considered that the case was one of tuberculosis.

Frank Crozer Knowles, M.D., *Reporter.*

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

George M. MacKee, M.D., New York.

Assisted by

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Faxton E. Gardner, M.D., New York.
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Augustus Ravogli, M.D., Cincinnati.
Frank E. Simpson, M.D., Chicago.
Harvey P. Towle, M.D., Boston.
Udo J. Wile, M.D., New York.
Fred Wise, M.D., New York.

Dermatologische Wochenschrift.

(May 25, 1912, liv, No. 21).

Abstracted by Fred Wise, M.D.

Some Peculiar Localizations of Tinea Dermatoses (Trichophytia Glandis. Isolated Scutulum of Achorion Quinckeanum on the Eyelid. Eczema Marginatum Spreading From the Axilla). J. Brault, p. 614.

Brault describes a case of tinea of the glans penis, verified by the microscope. Two small, circular, slightly raised lesions, the edges reddened, the centres clear, had been present on the dorsal aspect of the glans for over a year. The rest of the skin was free of lesions. In another case, a woman presented a single lesion on the eyelid, which proved to be favus; no other lesion was present. The woman was presumably infected by a rat. This is the fourth case on record, of infection with the Achorion Quinckeanum in the human being. The third case was a patient with ringworm of the axillæ and of the groin.

Increase of the Reducing Effect of Pyrogallol Plaster. Dreuw, p. 618.

The disadvantage of pyrogallol applications to the diseased skin is the fact that the pyrogallol becomes oxidized by the oxygen of the air, even before it comes in contact with the parts to which it is applied. This causes a decrease in its reducing power. To derive the full benefit of the reducing power of pyrogallol, the author employs a paste which is kept in air-tight zinc or glass tubes, thus preventing oxidation. The paste is spread upon lint or cambric just before being applied to the skin. This paste, which may be employed either in plaster or in ointment form, is called "unguentum adhesivum" and contains 10% salicylic acid, 20% pyrogallol, liquid carbonis detergens, and zinc oxide, 25% saponis viridis and anhydrous lanoline. Oleum rusci, ichthyol, anthrasol, etc., may be substituted for the liquor carbonis detergens. The author has had excellent results with this preparation in all cases where strong reducing action is desired, as in chronic eczema and psoriasis, the lesions rapidly clearing up without the production of a dermatitis.

Theory of Microscopical and Clinical Observation in Dermatology. E. Baeumer, p. 620.

(Not adapted to abstracting).

(*Ibidem,* June 1, 1912, liv, No. 22).

Two Cases of Lepra with Tuberculous Tissue-Changes. Demonstration of Lepra Bacilli by Means of Antiformin. L. E. Merian, p. 637.

Numerous cases of leprosy have been reported in which it has been found impossible to demonstrate the presence of the bacilli in the affected tissues. The question arises whether we are justified in making a diagnosis of leprosy in this class of cases. The majority of authorities agree that in such cases the diagnosis must rest solely upon the clinical findings. Many instances are recorded of advanced leprosy of long duration in which the most painstaking search failed to reveal the presence of the bacilli; in other cases, the examination of a large number of lesions proved negative, until finally a section was found to contain the lepra bacilli. It has been shown by Much that a form of tubercle bacilli exists, the so-called "granular form of tubercle bacilli," which does not stain under Ziehl's method, but which may be demonstrated by the Gram method. These organisms have been demonstrated in lepers by Arning and Lewandowski, as occurring in those cases in which the search for lepra bacilli had been fruitless. The author presents in detail two cases of this kind, in which the search for the lepra bacilli, stained by the usual methods, proved unsuccessful; by means of the antiformin method of staining, however, he succeeded in finding the organisms in the tissues of both patients. Histologically, the sections bore a close resemblance to tuberculous tissue.

(*Ibidem,* June 8, 1912, liv, No. 23).

Concerning the So-called Lichen Albus of von Zumbusch. K. Vignolo-Lutati, p. 661.

This excellent contribution is of such length, thoroughness and completeness, that full justice cannot be given it in these pages. In 1906, von Zumbusch described a dermatosis of peculiar clinical and histological character, naming it lichen albus. Briefly, the case occurred in a woman of 51, who presented a pruritic eruption of four years' duration, located upon the shoulders, arms, elbows and forearms; the eruption consisted of rose-colored papules, with smooth shiny surfaces, round and polygonal in shape and varying in size from a pinhead to a nail; also large-sized macules. Some of these macules presented in their central portions, a porcelain-like, white color, while their peripheries showed the same tint and shiny appearance as the isolated papules. Some of the smooth, white macules presented punctiform depressions and comedo-like elevations. All of the various stages of resolution were present at the same time; the papules and macules resolved themselves into pigmented spots, some of which left slightly atrophic areas, others disappearing completely. Morphologically and clinically, the disease resembled lichen planus; it differed from this dermatosis, however, in the absence of the mosaic-like appearance which is seen when the papules of lichen planus become confluent, and which also obtains in the sclerotic-atrophic type of this disease. Histologically, the specimen differed from lichen planus in the absence of thickening of the horny and nuclear layers, absence of acanthosis and no sign of exocytosis; there was no inflammatory infiltrate in the superficial layers of the derma. Hence von Zumbusch's name of lichen albus has been criticized by various observers.

The author made a thorough histological study of one of his cases, who presented an ordinary lichen planus on the forearms, while the skin of the penis and of the scrotum was covered by an efflorescence similar to the above-described lichen albus of von Zumbusch. He concluded that the eruption on the genitals showed dermal and epidermal changes characteristic of a lichen planus, which, upon its resolution, assumed the peculiar appearance of the sclerotic-atrophic type of the disease. The mosaic-like appearance was absent in this case, a circumstance which the author seeks to explain by assuming that the advanced sclerosis caused a fusion of the individual papules at their edges.

A review of all reported cases of a similar type follows. In the American literature, we find these cases reported by Johnston, Sherwell, Montgomery and Ormsby under the designation of "White spot disease." In conclusion, the author believes with Hallopeau, that we are dealing with a "sclerotic form of lichen of Wilson."

(*Ibidem*, June 15, 1912. liv, No. 24).

The Combined Salvarsan-Mercury Treatment of Syphilis. W. Scholtz and E. Riebes, p. 693.

The routine treatment of syphilitic patients in the public and private practices of these authors is on the following lines:

Two intravenous salvarsan injections are administered on two successive days, followed immediately by an intensive course of mercury lasting four weeks; then two more salvarsan infusions are given on two successive days. The dose of salvarsan is 0.4 to 0.5 gm., that is, 0.8 to 1.0 gm., within 24 hours. In cases showing symptoms of meningeal irritation, doses of 0.15 to 0.3 gm. are given at first, divided into three infusions, instead of two, within the 24 hours. These are followed by a two or three weeks' mercury course. The mercurial treatment includes daily inunctions, with an injection, every five to eight days, of salicylate of mercury or of calomel, alternated with an injection of 40% gray oil. The inunctions are of chief value in the secondary period; a fourth of the body surface is anointed with 4 to 5 gm. on four successive days, thus covering the entire skin in that time. Then follows an injection, a respite of a day or two, after which the inunctions are resumed. Most of the cases treated in this manner complain of weakness and malaise and lose between fifteen and twenty pounds in weight, but they are soon restored with tonics. In those rare cases in which the Wassermann reaction remains positive after the second course of salvarsan, a third course is administered. Of 1200 patients thus treated, the authors state that in only one case, that of a woman, did symptoms of severe collapse supervene.

A rise of temperature was noted almost exclusively in the primary and the early secondary cases, the fever rarely going above 39.5° C. The fever usually appeared from 6 to 8 hours after the infusions, at a time when the greater portion of spirochætæ had been destroyed and the unaltered salvarsan ceased to circulate in the blood stream. The fever is probably due to the endotoxine of the spirochætæ; not to the salvarsan. Usually, no fever was manifested after the initial infusion.

With the treatment outlined above, the authors claim to have practically eliminated the incidence of neuro-recurrences, not having observed a single case of this kind within the last half year. Primary lesions were treated by excision in some of the cases; in others an application of a mixture of glycerine and salvarsan was made to the chancre, followed by dusting with calomel.

Abelin and Riebes have shown that salvarsan can not be demonstrated in the blood serum 4 to 6 hours after the infusion. Recently, the authors have given three successive infusions of the drug within 24 hours, so that for a period

of about 30 hours, salvarsan is circulating in the blood current. The 3 infusions were given in doses of 0.4 to 0.5 gm. each.

The Origin of Leprosy. C. Engelbreth, p. 700.

An illuminating and highly interesting article on this subject, the first part of which is historical and discusses the remarkable incidence of the disease in countries showing the greatest dissimilarity in climate, altitude, social conditions, diet, etc. Why did the disease suddenly disappear from Denmark in the 16th Century, and persist in Norway and Iceland? The author calls attention to the similarity between lepra and lupus. He believes that lupus has its origin in cattle afflicted with tuberculosis and points out several analogies in the two diseases. Pathologically, the two diseases are somewhat similar in appearance, in their chronicity, in their lack of virulence and in their resistance to healing; both diseases occur chiefly among peasants and among the poor; in Bosnia, 99 per cent. of all the lepers occurs among the peasants; the same is true of other countries; both maladies appear usually between the first and second decades of life, chiefly in males; lupus and lepra frequently begin in the nose. Now, if, as the author believes, lupus is derived from cows, is it not possible that lepra may also originate from cattle? It is a fact worthy of note, that lepra is found chiefly in those parts of Europe in which the country is mountainous. Searching for a domestic animal which may act as the intermediate host to the bacillus of leprosy, the author comes to the conclusion that we have in the domestic goat the probable intermediate host.

Engelbreth attempts to show that in all countries in which the goat flourished, there leprosy also flourished; and that in those countries where the breeding of goats gave way to the breeding of sheep and cattle, the disease practically vanished, as in England, Germany and France. In Denmark, the Royal edict against the breeding of goats was soon followed by the disappearance of leprosy from the country. In Norway, the author shows, that the more goats certain parts of the country harbor, the more lepers will be found in those regions, and vice versa. The same relationship is found to exist in other lepra-infested countries, including the Western continent. (*To be continued*).

Japanische Zeitschrift für Dermatologie und Urologie.

(May, 1912, xii, No. 4).

Abstracted by Fred Wise, M.D.

Concerning Xeroderma Pigmentosum. I. Toyama, p. 24.

Foster (1908) and Schonnefeld (1910) have recorded 196 cases of xeroderma pigmentosum to date. The author adds 33 additional cases from the Japanese literature to this list. The first case was reported by Tsutsui in 1894, the second by K. Dohi in 1898. Twenty-three cases from Dohi's clinic and other places in Japan were tabulated in 1908. The other ten cases were of earlier date, four of these coming from the author's clinic in Sendai. These four cases occurred in three girls, aged one, four and eight years, respectively, and in one boy of eighteen. After careful study of these patients, the author arrives at the following conclusions:

1. The erythema is the first sign of xeroderma pigmentosum. He exposed the forearm of the four-year-old patient to the sun's rays for about two hours. The next day the exposed skin presented a diffuse redness and swelling, which later became scaly, disappearing in about a week's time. The mother stated

that this reddening and scaling occurred repeatedly during the summer months, finally becoming permanent.

2. The pigmented spots and the erythema most often occur upon the face, neck, upper part of the chest and the backs of the hands, and may frequently be found on the hairy scalp and the back and external surfaces of the upper and lower extremities.

3. Aside from the leucoderma which is found to appear on the xerodermatous skin, the author also found vitiligo spots on the healthy portions of the skin—a fact not mentioned in the literature.

4. Toyama thinks that the chief cause of the relatively high percentage of this disease in Japan is due to the isolated position of the island, with a consequent intermixture of the blood of various tribes.

Reaction of Syphilitics to Mercury and Salvarsan Injections. G. Hommura, p. 25.

The author believes that the syphilitic patient frequently reacts with a rise of temperature to mercury and salvarsan, regardless of the method of their administration; the reaction is most marked in the beginning of the secondary stage, less so in the last period of the primary stage and totally absent in the beginning of the primary stage and in the tertiary period. Hommura believes that the occurrence of the fever is due to the reaction of the endotoxine which is set free in the blood current with the disintegration of the Spirochætæ pallidæ.

Influence of Trichloracetic Acid on Pigment Anomalies of the Skin. S. Watanabe and Y. Fujitani, p. 27.

This acid is an old remedy, recently brought into prominence by Knauer, as a substitute for carbon dioxide. The authors find that the remedy is useful in nævus pigmentosus, lentigo and chloasma, applied in 10, 25 and 50% solution, in single or repeated treatments. Of especial interest was a case of discoid lupus erythematosus, which was completely cured after ten applications of a 25% solution of the acid.

Annales des maladies vénériennes.

(Jan. 1912, vii, No. 1).

Abstracted by Faxton E. Gardner, M.D.

A Year of Practice with "606." Nicholas and Moutot, p. 1.

Intravenous injections are the best. The *healing* value of the drug on all truly syphilitic lesions is *undeniable*: Salvarsan has no value in tabes, general paresis, leucoplakia or pigmented syphilides. It has *but very little preventive* value. In recent syphilis, recurrences are exceedingly frequent, despite repeated injections. It may be dangerous. The real indications are: Attempts at early abortive treatments, failures of mercury and need of a very strong and prompt action. The best doses are 0.3 to 0.4 gm. Never fail to follow up with mercury.

Two Cases of Icterus Following Intravenous Infusions of Salvarsan. Lévy-Bing and Duroeux, p. 40.

Milian believes post-salvarsan icterus to be hæmolytic in nature. The writers believe their cases were hepatic in origin because there was a slight increase in the volume of the liver and tenderness on pressure on its boarder; there were signs

of biliary toxæmia, pruritus, anorexia, vomiting and slowing of the pulse. The urines were brown and contained biliary pigments. There was no change in the color of the fæces. There were no hæmolysins in the blood and even the resistance of the blood corpuscles to hæmolysis was markedly increased.

Consequences of Blind Confidence in "606." Broquin, p. 49.

The writer reports two cases: one of a young woman who was treated for a chancre by six injections of 0.3 gm. The Wassermann reaction became negative and she had no more accidents for several weeks. She was allowed to leave the hospital and return to her town where she became a source of contamination for her all too numerous male friends. The second one was that of a married young man of twenty-four who acquired an extragenital syphilis, was promised a speedy eradication, and contaminated his wife.

(*Ibidem*, Feb. 1912, No. 2).

Anti-syphilitic Treatment and the Wassermann Reaction. Gougerot and Parent, p. 81.

This article is to be concluded in the April issue and will be abstracted when completed.

Study of the Cerebro-Spinal Fluid in Syphilitics Treated with Salvarsan, Lévy-Bing, Duroeux and Dogny, p. 109.

The authors have systematically performed a lumbar puncture in twenty patients before and after the salvarsan treatment and have studied the cerebro-spinal fluid thus obtained. In all cases they found after salvarsan treatments an increase in the tension of the cerebro-spinal fluid, sometimes a true hypertension, the proportion of albumin being always correspondingly increased. The Wassermann reaction seemed also to vary similarly to the meningeal alterations. The writers affirm that meningeal reactions, slight or severe, are undoubtedly much more frequent with salvarsan than with mercury, they therefore admit that salvarsan favors their development and this is explained by *meningeal impermeability*, the spirochætæ harbored within the meninges being beyond the reach of the drug. This is a serious charge against salvarsan employed alone, all the more because those meningeal reactions are very little amenable to treatment.

A Case of Syphilitic Reinfection in an Old Syphilitic Treated with Arsenobenzol, Melun, p. 113.

Extragenital chancre in 1888, positive Wassermann in 1911, two injections of arsenobenzol (Sept. 26, 0.5 gm; Oct. 4, 0.6 gm. intramuscular). Oct. 22, new chancre: sclerosis, spirochætæ. The patient had been having promiscuous intercourse before, between and after the arsenobenzol injections. *The infection and incubation took place while the patient was undergoing a "606" treatment.*

(*Ibidem*, March 1912, No. 3).

Contribution to the Study of Gonorrhœal Ulcers. Serra, p. 161.

Two cases: general review of the subject.

A Year of Practice with "606." Pascal, p. 182.

Conclusions identical with those of Moutot, noted above. Pascal prefers intravenous infusions of acid solutions, very dilute in Fleig's glycose solution which contains no salt.

Arsenobenzol and Post-Operative Hæmorrhage. Mouchet and Bricout, p. 206.

Thirteen months after two subcutaneous injections of arsenobenzol, Mouchet extirpated one of the remaining infiltrations. The post-operative bleeding was so abundant that it soaked the dressing through and necessitated the removal of the stitches, so that union was obtained only by secondary intention. The extirpated mass still contained 1/10 of the injected quantity of arsenic. The removal, some time later, of the second tumor was attended by the same profuse hæmorrhage despite great precautions. One does not realize how hard those "arsenobenzolomas" adhere to the neighboring structures.

(*Ibidem*, April, 1912, No. 4).

Anti-syphilitic Treatment and the Wassermann reaction. Gougerot and Parent, p. 241.

This is an exhaustive review of the subject. All documents are analyzed, all questions are discussed and a general line of conduct is given. Anti-syphilitic treatment generally influences the Wassermann reaction: this influence is all the more marked as the treatment is more intense, protracted and methodical. The efficacy of the treatment varies with the age, gravity and nature of the disease, early cases being easier to influence than old ones. The reappearance of a positive Wassermann reaction frequently heralds a recurrence. The serologic reaction alone *is not* able to decide whether a treatment has been efficient or not. It is only *one* symptom of much value, and to be used as often as possible, but it must be considered in conjunction with the other symptoms. *It cannot be made the sole criterion of an abortive treatment.* Hence the necessity of the chronic intermittent treatment with mercury, even if the reaction remains negative. This reaction is reactivated by treatment (serum-Herxheimer reaction): this reactivation is specific and has a prognostic value. In the early stages, try an abortive treatment, with any approved method ("606," hectine) and daily injections of a soluble mercurial salt. If it fails, keep up an energetic course of treatment. Later, indications are furnished not by the Wassermann reaction alone, but by said reaction plus all the other symptoms and the general condition of the patient.

Münchener medizinische Wochenschrift.

(March 5, 1912, lix, No. 10).

Abstracted by Faxton E. Gardner, M.D.

Contribution to the Abortive Treatment of Primary Syphilis. Voss, p. 527.

A plea for the application of the abortive treatment, consisting of several salvarsan injections, followed by a course of mercurial treatment, followed again by salvarsan injections, in all cases of suspicious sores; the diagnosis being established by the finding of spirochætæ in the lesions: twenty-three cases, twelve followed. Success claimed in all cases. The lesion must be excised or destroyed with the cautery.

On the Ætiology of Metasyphilis. Villinger, p. 530.

The author reports a case followed for fifteen years. Eight years after the primary sore some mild tabetic symptoms appeared at times, followed by intervals of perfect health. Each of these periods was marked by pain and swelling in the inguinal region, where the inguinal glands had remained considerably enlarged. Villinger attributes the condition to spirochætal toxines, freed at intervals from the glands. He discusses the possible rôle of these toxines emanating from

nests of surviving spirochætæ, or of the decomposition products of dead spirochætæ in the production of these parasyphilitic manifestations, and also of neuro-recurrences.

(*Ibidem*, April 2, 1912. No. 14).

On the Treatment of Malignant Tumors with Mesothorium and Thorium. Czerny and Caan, p. 737.

The action of mesothorium is similar to that of radium; it seems to be stronger on superficial lesions. The authors have treated 120 cases: 85 of carcinoma, 12 of sarcoma, 8 of lymphosarcoma, 6 of angioma, one of endothelioma and 8 of tuberculosis. Without giving a final opinion, they think mesothorium is at least equal, and probably superior to radium in superficial lesions. They have also tried injections of the thorium emanation, thorium X, in the veins and into the tumor. They believe they had some improvement in a few cases.

(*Ibidem*, April 9, 1912, No. 15).

On Anaphylaxis Phenomena in Repeated Salvarsan Injections. Twaschenzow, p. 806.

The author has observed fifteen times in sixty patients with chronic nervous diseases treated by repeated injections at long intervals of small (0.1 gm.) doses of salvarsan, a reaction as follows: Sudden flushing and swelling of the face, difficulty in breathing, cough, feeling of warmth and fullness in the head, twitching and sometimes paræsthesia of the extremities, anxious feeling: the duration being from half a minute to five minutes. The heart action is not disturbed, and no permanent alterations persist. These anaphylactic phenomena must be ascribed to salvarsan alone. Impurities in the water employed for the infusion, or the salt, give general reactions, but of a different character. These phenomena depend on the dose and the interval between the injections.

Clinical and Statistical Contribution to the Salvarsan Therapy of Syphilis. Berger, p. 808.

The author claims never to have had a recurrence in sixty-five cases of syphilis in soldiers treated with salvarsan and carefully followed for from four to ten months. 84.6% of those treated for chancre had a permanently negative Wassermann. This was changed to 70.4 % in cases treated in the secondary stage: 80% of those treated in the second year of infection, and 75% for the later stages. Berger has frequently noticed that patients complain of special sensations in the gums during the salvarsan infusion: this is seen in patients who have not been treated before, just as well as those who have had mercurial treatment. He thinks these sensations are a mild symptom of hypersensitiveness to arsenic. He has seen thrombophlebitis after using too strongly alkaline solutions, and a few cases of clonic convulsions and two cases of albuminuria.

Paris médical.

(March, 1912).

Abstracted by Faxton E. Gardner, M.D.

Wassermann's Reaction as Applied to the Treatment of Syphilis. Jeanselme and Vernes.

Wassermann's reaction enables, in a way, to measure the actual activity of the disease. But *titration of all elements is indispensable.* Lack of titration is

responsible for wide divergency in the results. The antigen is the pivotal point of all reactions. By the use of diagrams showing the variations of the Wassermann reaction, the authors have been able to give an almost mathematical aspect to the results of salvarsan treatment. If, in addition, we indicate on the chart the results of the cytologic examination of the cerebro-spinal fluid obtained by lumbar puncture, we have two factors sufficient to direct the treatment. The Wassermann reaction given by the cerebro-spinal fluid is, to a great extent, independent of the blood reaction, and shows faithfully whether the virus has concentrated its attack on the nervous system.

Presse médicale.

(March 2, 1912, No. 18).

Abstracted by Faxton E. Gardner, M.D.

On Late Nervous Reactions Observed in Some Syphilitics Treated with Salvarsan. Ravaut.

Ravaut reviews the question of neuro-recurrences. Many explanations have been given and most contain a part of the truth; but Ravaut considers as the most important element of all, the condition of the meninges at the time of the salvarsan injection. His ideas are based upon the results of lumbar puncture and cytologic examination of the cerebro-spinal fluid. At the time of the chancre, there is no impregnation of the nervous system, and salvarsan treatment is not followed by neuro-recurrences. In the secondary period, the impregnation of the nervous system is very frequent: 67% of syphilitics showing no nervous symptoms have a meningeal reaction characterized by lymphocytosis and increase of the albumin in the cerebro-spinal fluid. The proportion reaches 85% in those who have been treated with salvarsan: this is not simply a coincidence; it confirms the notion that salvarsan *does* favor nervous reactions, whatever may be the name these are given. In the tertiary period, meningeal reactions are rare. The reactions in the secondary period are not a "Herxheimer;" they are not due to neurotropism, they are not neuro-recurrences: they are due to the presence of spriochætæ in the nervous system, and to a fixation of the arsenic which takes place under these conditions: that is, salvarsan has *a neurotropic action only in the presence of spirochata*.

The practical conclusion is obvious; be careful in the use of salvarsan when the examination of the cerebro-spinal fluid shows a meningeal reaction. When there is no such reaction, we need not fear a noxious neurotropic influence of salvarsan.

(*Ibidem*, April 3, 1912, No. 27).

Value of the Wassermann Reaction in the Diagnosis of Heredo-Syphilis. Anbronesco and Saratzeano.

The authors examined twenty-two children and thirteen mothers: They conclude as follows: Colles' law is accurate. The mothers of syphilitic children give the same Wassermann reaction as women having an active acquired syphilis. The number of childbirths has no influence on the reaction, which is positive in hereditary syphilis, even when there are no visible lesions; it is more marked in the children than in the mothers who do not show any active lesions.

Actas dermo-sifiliograficas.

(1912, iv, No. 2).

Abstracted by A. Ravogli, M.D.

Vegetating Dermatitis. Juan de Azua, p. 43.

De Azua refers to a case of impetigo vegetating lesions and considerable pigmentation. The patient had suffered from syphilis and had received salvarsan. The author attributes the pigmentation to the salvarsan.

The So-called Human Botryomycosis. E. Alvarez Sainz de Aja, p. 49.

The author refers to the works of Poncet and Dor and the subsequent writings of Ballinger, Johns and Kitt, and accepts entirely the views of Bosellini. The author claims that human botryomycosis is entirely different from the equine variety of the disease. The latter is far more malignant in character. He reports a case with lesions on the left cheek and left hand. The microscope failed to reveal any special microörganisms or evidence of malignancy. He thinks that the malignant proliferation in Poncet and Dor's case was due to neglect. The author thinks the tumors are granulomata, angiomatous, and due to the ordinary pyogenic organisms. The pedunculation is due to the tumors developing in locations where the subcutaneous tissue is very resisting—scalp, cheeks, lips, fingers, palms and soles.

Lupus Vulgaris in Madrid. Enrique Garcia del Mazo, p. 57.

In reference to the frequency of lupus vulgaris in Madrid, the author compares the statistics of Copenhagen, Vienna, and Toulouse with those of the Hospital de San Juan de Dios. Vienna gives 6.6%, Toulouse 1.76%, while in Madrid the figures are 1.14%, making the disease rather rare. As reasons for this he mentions climate, light and comparative rarity of other tuberculous conditions. Regarding sex, the author thinks lupus vulgaris occurs more frequently in women than in men. The face is the site of election and very often the disease begins in the nasal cavity; occasionally, however, the mucous membranes are secondarily affected. The author has found that about 8 in 100 cases of lupus vulgaris subsequently develop pulmonary tuberculosis. Tuberculin as a means of diagnosis has not given a constant reaction, especially in cases of lupus vulgaris without tuberculous foci in the viscera. Regarding treatment, the Finsen light and the X-ray are recognized. Curetting followed by applications of pyrogallol is highly recommended.

A Relapsing Solar Eruption. E. Castans, p. 80.

A young woman developed a papulo-erythematous eruption every time she exposed her skin to the sun. The eruption would subside under soothing applications.

Syphilis Hereditaria Tarda. E. Alvarez Sainz de Aja, p. 83.

The little patient was 22 months of age. The mother's history was negative, while the father confessed to having had ulcerative inguinal adenitis several years previously. The Wassermann reaction in father, mother and child was positive. The patient's symptoms consisted of a dactylitis of nearly all the fingers, and these yielded very promptly to salvarsan and mercury.

Syphilis, Non-Syphilitic Nephritis and Salvarsan. J. S. Covisa.

Covisa does not hesitate to carefully use salvarsan in cases of syphilis when the kidneys are affected, even though the renal trouble may be of non-syphilitic origin.

Sclerodactyalia Preceded by Symptoms of Raynaud's Disease. Juan de Azua.

In a woman of 58, scleroderma developed on the hands, feet and forearms. The fingers and toes were pale and swollen; the skin of the forearms was hard, tender, glossy and bluish in color. The Wassermann reaction was negative. The patient also exhibited an altered nervous system.

Pruritus of Gastro-Intestinal Origin. Jaun de Azua, p. 95.

The author tells of a patient affected with severe generalized pruritus without cutaneous lesions. The attack was preceded by indigestion and constipation. Laxatives and diet effected prompt relief.

Syphilitic Aortitis Resisting Salvarsan. M. F. Criado, p. 97.

Criado reports a man of 27, who, three years after the chancre, developed dispnœa and a rapid pulse. A diagnosis of syphilitic aortitis was made and two injections of salvarsan given without beneficial results. The symptoms were somewhat relieved by the use of potassium iodide.

Syphilide Resembling Ringworm. E. Alvarez Sainz de Aja.

The author reports the case of a man of 18 who had contracted syphilis two years previously. He developed two circinate lesions on the neck which had all the clinical appearances of ringworm. The lesions disappeared under anti-syphilitic treatment.

Herxheimer Reaction. Juan de Azua, p. 101.

A patient suffering from cerebral syphilis was given a second dose of salvarsan which was followed by severe vomiting, dilatation of both pupils and symptoms of cerebral congestion.

Medical Record.

(March 16, 1912, lxxxi, No. 11).

Abstracted by Frank E. Simpson, M.D.

A Preliminary Report on a New Antiserum for Cancer. W. N. Berkeley and S. P. Beebe, p. 513.

Berkeley and Beebe believe it axiomatic that a scientific remedy for cancer shall be soluble in the blood, transmissible by the blood and lymph to all parts of the body and possessed of a selective affinity for the tumor cells to be destroyed. The authors have endeavored to produce a remedy which is in the nature of a physiological antibody developed in an alien species by successive injections of a cancer extract. The technique of production is promised later.

So far the results said to be accomplished are: 1. The production of a serum which when injected in increasing doses into the original host, is followed by rapid regression and disappearance of the tumor. 2. There is a strict quantitative

relationship between the amount of serum used and the amount of tumor which disappears. 3. No ill-effects have been noted except anaphylactic fever and other slight disturbances. 4. The relation of one antiserum to histologically different cancers is variable. 5. Present clinical results—15 cancers and 1 sarcoma have been treated: Nine received stock serum, one received autogenous serum after a secondary operation, and six received autogenous serum after a primary operation. Of the 16 patients, two were moribund when injected and were uninfluenced. Of the remaining 14, six were at least benefited and four were not. The remaining four are stated to have recovered and to have had no recurrence for from three to six months. There is no indication at present that inoperable cancers and sarcomata will be amenable to the treatment. The cases so far treated are too few in number to justify any sweeping claims for the future.

Clinical Accounts of Thirteen Cases Treated with a New Antiserum for Malignant Disease. William M. Ford, p. 514.

Ford gives the clinical results in 13 cases injected with an antiserum prepared by Berkeley: Cases one and two were in extremis and died within a few days. Cases three, four and five took the serum irregularly. Of these, two were benefited and one was not. Case six was found non-malignant. Case seven died. Cases eight, nine and ten were operated upon and subsequently injected. Three to six months after operation there was no reccurrence. Case eleven died. Case twelve, cancer of the breast, is still under treatment. Case thirteen had a hysterectomy for cancer of the uterus; she was then injected for supposed cancer of the bladder, but this diagnosis was later declared erroneous. Several months later she was in apparently good health.

(*Ibidem,* March 23, 1912, lxxxi, No. 12).

Pellagra in the Canal Zone. W. E. Deeks.

Deeks reports with some detail twelve cases of pellagra. All but one occurred in the colored race. There were two males and ten females. The symptoms were fairly constant and consisted of the following six groups: 1. Mouth symptoms. A red tongue which showed, later, a necrotic membrane is stated to have been constant; characteristic stomatitis and salivation were also noted. 2. In women a vaginitis resembling the stomatitis; often proctitis occurred. 3. Gastro-intestinal symptoms; nausea, vomiting and diarrhœa were constant. 4. Skin lesions. A doughy, inelastic condition of the skin, particularly over the abdomen was noted. Dermatitis was stated to have been present in only seven of the twelve cases, the most frequent cause being the sun's rays. 5. Acute nephritis was always present. 6. Mental symptoms were of late development. Death, which occurred in four cases, was apparently due to exhaustion or terminal infection.

With reference to the ætiology of pellagra in general the author draws the following conclusions: 1. There is no endemic centre. 2. More women than men are attacked. 3. It is a disease of the poorer people or those living on the cheaper or less nutritious foods. Not corn alone but any cereal or starchy food, in conjunction with the ingestion of cane sugar, may in a warm climate, where there is lessened metabolic activity, cause pellagra. The disease is regarded by the author as an auto-intoxication.

The treatment of pellagra is based on this view of its ætiology. It consists mainly in the use of a carbohydrate-free diet and the administration of dilute nitric acid. The results are said to be astonishingly good.

(*Ibidem*, April 6, 1912, lxxxi, No. 14)

Salvarsan as a Cure of Syphilis. James M. Winfield, p. 668.

Winfield gives a résumé of the results obtained in 100 cases that were under observation for ten or more months and in whom no other anti-syphilitic treatment was used. Salvarsan was administered in most of the cases by the intramuscular method. No necrosis or abcesses followed. In a few of the cases the subcutaneous and intravenous methods were employed. A few patients received a second dose. Serologically, the results coincided in the main with those of other authors. In four cases, the reaction remained positive; in all the others it became negative in from ten days to six weeks. After six months, 45 cases still gave a negative reaction. Clinically, 71 cases have not yet shown any evidences of the disease. No untoward effects on the optic or auditory nerves were noticed except a slight tinnitus in three cases. The author believes the intravenous method is the one of choice and he advises against giving salvarsan by any method to ambulatory patients.

(*Ibidem*, April 13, 1912, lxxxi, No. 15).

Some Salient Points in the History of the Causal Agent of Syphilis. John Bethune Stein, p. 697.

Stein gives an interesting historical review of the Spirochæta pallida from the observation of Donné's to the cultivation of the organism by Noguchi.

Papilloma of the Vocal Cords Cured by Radium. Robert Abbe, p. 703.

Abbe reports the case of a woman, suffering from warty growths on the vocal cords which had been repeatedly removed by different laryngologists with cutting punches every six months for forty-seven years. Radium applications rapidly dissipated a large part of the growths so that she was not operated on for three years subsequently. In a second case, a warty growth occurred on the left vocal cord of a young woman, aged 17, whose singing voice had been impaired and finally lost. The growth was removed twice by operation, but a recurrence of the growth led to the use of radium. At first a trial was made under local anæsthesia, but when this was found impracticable, 100 milligrams of pure radium bromide were introduced through a tracheotomy wound and suspended between the vocal cords for 30 minutes. Three months later no growth remained, and six months later perfect restoration of the singing voice was demonstrated. Abbe also refers to two other cases of papillomata of the larynx still under treatment which promise ultimate cure.

(*Ibidem*, May 25, 1912, lxxxi, No. 21).

The Luetin Test for Syphilis. A Preliminary Report of Forty-four Cases. R. B. H. Gradwohl, p. 973.

Gradwohl has made a comparative study of the luetin and Wassermann reactions in 44 cases. The luetin test consists in the inoculation of dead cultures of the Treponema pallidum into the skin. While the Wassermann reaction is dependent upon the infectivity of the invading microorganisms, the luetin test is dependent entirely upon the anaphylactic reaction of long-infected syphilitic tissue. Once the sensitization of tissue has taken place, a positive luetin reaction will be observed as long as the patient is infected. The disappearance of the luetin reaction may mean the "cure" of the patient. The author believes the Wassermann reaction, while of great diagnostic value, has no prognostic

or therapeutic value, inasmuch as it may become negative without treatment or positive under full treatment. In primary or secondary syphilis we cannot expect much help from the luetin reaction, but in tertiary syphilis where the Wassermann reaction so often fails, it will be of the greatest service. The technique of the luetin test is given and the three forms of reaction—papular, pustular and torpid—as described by Noguchi, are mentioned. In the author's experience the luetin test is negative in primary syphilis, negative at times in secondary untreated syphilis and negative in some latent and parasyphilitic cases. It is positive in treated secondary cases, especially after salvarsan, and positive as a rule in tertiary cases. The author concludes that the luetin test "will rank up close" to the Wassermann test, but like the latter it should be regarded only as a symptom of lues.

New York Medical Journal.

(April 20, 1912. xcv, No. 16).

Abstracted by Frank E. Simpson, M.D.

The Use of Spinal Fluid in the Treatment of Chronic Syphilides, Especially of the Nervous System. William Browning and William Lintz, p. 786.

This paper is in the nature of a preliminary suggestion as to the possible use of spinal fluid in the treatment of syphilis. The rationale of the method is based on the following statements: 1. Antibodies are curative agents in specific infections. 2. During the earlier and systemic period of lues the antibodies appear in the general circulation and not in the spinal fluid, but in the later spinal and parasyphilitic stages the reverse is the case. It is proposed to transfer the antibodies in the spinal fluid to the general circulation by aspiration and reinjection inasmuch as this sac has no absorbents. Certain dangers may be apprehended, such as infection and troublesome osteitis or spondylitis, but the cases so far injected indicate that no dangerous reaction is likely to arise. Details of the method with illustrative cases are promised later.

A Summary on the Techniques Employed in the Administration of Salvarsan. Sylvan H. Likes and Henry Schoenrich, p. 797.

The authors give a résumé of the various methods of using salvarsan. They state that the subcutaneous method seems to have been practically abandoned. The various solutions and suspensions which have been used in the intramuscular method are mentioned. The latter is the method of preference when the intravenous is not available or is contraindicated. Making use of the skin as an absorbing medium is a method resorted to by Hans Leyden who introduced his "percutaneous method." The authors state that the intravenous route has been generally accepted as "the method" of administration of salvarsan. Used first by Iversen, Schreiber and Weingart, various modifications of the apparatus have been proposed. The authors in their own work employ a graduated syringe, a two-way stop-cock and two pieces of rubber tubing, one of which is attached to the needle, while the other is placed in the salvarsan solution previously prepared in a thick glass graduate. Cuts are appended which simplify the description of the apparatus.

(*Ibidem*, May 4, 1912, xcv, No. 18).

Salvarsan and the Wassermann Test in Syphilis. M. L. Heidingsfeld.

Heidingsfeld advocates the use of careful Wassermann examinations in the course of the treatment of syphilis in order to acquaint the physician with its favorable or unfavorable progress. He also deprecates the use of the many modifications of the Wassermann reaction as leading to unreliable results. The influence of salvarsan upon the Wassermann reaction is inferred from an analysis of 416 cases in which salvarsan was administered 474 times. Serologically summarized, 215 cases progressed from positive to negative Wassermann reactions; 17 cases improved; 33 cases showed no change; 7 cases retrogressed. The author concludes that salvarsan effects a clinical and serological cure in about 80 per cent. of cases. The remaining 20 per cent., with the aid of mercury, gives promise of a cure in due course of time. Heidingsfeld has seen no material harm from salvarsan.

Canadian Medical Association Journal.

(March, 1912, ii, No. 3).

Abstracted by Louis Chargin, M.D.

A Case of Accidental Extragenital Syphilis. H. B. Anderson, p. 214.

The patient, a physician, while removing some venereal warts in a young man with secondary lues, inflicted a slight wound on his thumb with the heel of the knife, thus infecting himself. Neither this part of the knife nor the area wounded came in contact with the infected area. The wound bled but as an extra precaution he sucked it and applied pure nitric acid. It soon healed and no evidence of a chancre ever appeared. About two months later he developed a generalized, large papular eruption preceded by rather severe chills, fever, etc. With the exception of a mass (lipomatous-like) in the left axilla and two months later a similar one in the right groin, no gland enlargement could be detected. The Wassermann reaction was positive. Under ingestion and inunction treatment the eruption disappeared. Six months later he developed an arthritis of the left ankle and right elbow (around the olecranon) which persisted despite thorough mercurial treatment. An intravenous salvarsan injection soon relieved the condition. The author thinks that the absence of chancre, glandular involvement and the occurrence of chills, etc., suggest that a direct blood infection occurred—a genuine, primary septicæmia.

(*Ibidem*, April, 1912, ii, No. 4).

The Establishment of Treponema Pallidum as the Causative Agent of Syphilis, and the Cultural Differentiation Between This Organism and Certain Morphologically Allied Spirochætæ. Hideyo Noguchi, p. 269.

The infectious nature of syphilis has long been recognized. It is only since the inauguration of scientific microbiology that the cause has been more zealously studied. The discovery by Schaudinn and Hoffmann of the Treponema pallidum and subsequent investigations have resulted in regarding the organism as the cause of syphilis. The final proof (to conform with Koch's Laws) depended upon the ability to grow it in pure culture. In 1909, Schereschewsky grew the treponema in gelatinized horse serum, but not in a pure state. Mühlens, later, obtained a pure culture from a mixed growth in Schereshewsky's horse-serum. The organ-

isms were indistinguishable from the pallidum and produced a strong putrefactive odor in the culture. They were non-pathogenic for monkeys, rabbits, etc. W. H. Hoffmann in 1911, cultivated five strains of the same (Mühlen's) organisms from human lesions.

Noguchi's efforts in this field began in 1910, when he succeeded by entirely different methods in obtaining a pure culture of the pallidum from the orchitis produced in rabbits by transplanting the Treponema pallidum from human beings. Such orchitic material contains almost pure cultures. Later, he isolated the organism directly from human chancres, condylomata, etc., avoiding mouth lesions so as not to confound with the dentium. The morphology and the biology of these agree with strains isolated from rabbit orchitis, and produce characteristic lesions in certain monkeys as well as a positive Wassermann. For comparative purposes he cultivated two species of mouth organisms, designated by him Treponema macrodentium and microdentium. The microdentium is morphologically identical with the pallidum but differs from it in cultural characteristics, in the main as follows:

The microdentium grows more easily and rapidly and forms more discrete and denser colonies; it is less strictly anærobic; it produces a putrefactive odor and it grows without the addition of fresh tissue. The macrodentium is readily differentiated by its morphology alone. In view of these facts the author asks how can the strains of Mühlen's and W. H. Hoffmann's be distinguished from the microdentium? He regards them as identical.

Of the luetin test he says: "When once developed its permanent disappearance after treatment points to the probable eradication of the disease and is in this respect of prognostic value. In late syphilis where visceral organs are affected and the clinical and serological examinations yield no decisive diagnosis, the luetin test assumes an important position in determining the nature of the affection. Thus early syphilis can be diagnosticated by the Treponema pallidum, clinical manifestations and serological examination: the late stages by the luetin test."

Salvarsan, a Year's Experience. R. C. Campbell and S. F. Patch, p. 274.

The report is on 331 cases injected. About 200 intravenous injections were given in ambulant patients with no untoward results. The advantage claimed for the intramuscular and hypodermatic injections, that of the arsenic depot, is true also of the intravenous and because of comfort to the patient and celerity of action they prefer the last method. With improved technique little disagreeable by-effects are noted. One of the earliest illusions dispelled about salvarsan was the so-called *therapia sterilisans magna*. Their results have been particularly pleasing in primary cases, before the eruption appeared, and they advise excision of the chancre where possible, especially the markedly indurated sores. Little benefit was noted in tabes and paresis. In cerebral lues their results were very good. Two congenital cases were markedly benefited. Of relapses they say, comparing corresponding results under mercury, even if the symptomatic improvement has been as marked, that the relapses after mercury are greater in number and severity. But two nerve recurrences occurred in 250 cases. The effect upon the Wassermann reaction differed little from that of mercury. They urge early diagnosis and treatment. In their opinion a positive Wassermann is an indication for treatment. In conclusion they say: "While we have outlined an expectant treatment depending upon the Wassermann reaction, it is not improbable that the future may demand a return to an intensive, chronic, intermittent treatment, with salvarsan alone, or salvarsan and mercury combined."

(*Ibidem*. May, 1912, ii, No. 5).

The Present Status of the Wassermann Reaction. R. P. Campbell and S. F. Patch, p. 398.

The fact of the clinical specificity of the complement-binding reaction seems proved and with the possible exception of scarlet fever and some tropical diseases, one is justified in the event of a positive reaction in making a diagnosis of lues. They make use of Noguchi's modification in the belief that it is the most accurate and the one theoretically correct. They have had experience with over 2,000 reactions but base this report for the most part on 307 cases treated with salvarsan. These have been accurately observed. In non-syphilitis they have never obtained a positive reaction. In primary lues a positive reaction appeared sooner or later in all cases save one, a case early treated with salvarsan. In differential diagnosis of this stage, the absence of spirochætæ with repeated negative Wassermanns, exclude syphilis. In the secondary and tertiary stage the reaction was nearly constant—123 in 129 cases in the former, 39 in 49 in the latter. The negative cases could be explained on the ground of former treatment. Of latent cases they had 35, with 11 positive reactions: the negative cases had been subjected to treatment. In this group only a positive reaction is of significance. Three out of four of their congenital cases proved positive. In the fourth case there was an error in the technique. In cerebral lues 7 out of 13 were positive. In tabes 6 out of 7. In two cases of general paresis, one was positive and the other doubtful. In the consideration of the influence of treatment on the positive reaction they say: "That any treatment having any influence on the clinical symptoms exercises the same effect on the positive reaction. By technical procedure it has been possible to trace the gradual weakening of the positive reaction after treatment. The more intense the reaction the longer it takes to disappear and the older the lues, the more difficult it is to eradicate it." The average time is from 5 to 6 weeks after the salvarsan treatment. They find that if treatment is inadequate, clinical symptoms and positive Wassermann will recur. For reasons which they enumerate, they believe with Citron, Neisser and others, that a positive reaction indicates the presence of active syphilis in the body of the person giving the reaction, and as such is a symptom of syphilis and must be treated like any other clinical manifestation. In considering the Wassermann reaction in relation to the treatment, they ask: "Are we justified in discarding the chronic intermittent treatment for the newer biological method of Citron? Is this method (Citron's) to be applied to the careless and ignorant, many of whom discontinue treatment, only too early? We know the toll paid by the inadequately treated." It seems to them, therefore that it will be more practicable to treat every case of syphilis in the chronic, intermittent and intensive manner for two years at least, with salvarsan or combined with mercury. If a patient so treated shows no symptoms and a negative reaction over a further period of a year, he can be declared in all probability cured.

Practitioner.

(March, 1912, lxxxviii, No. 3).

Abstracted by Louis Chargin, M.D.

The Inunction Treatment of Syphilis as Carried Out at Foreign Spas. D. Freshwater, p. 439.

The author details the inunction treatment as it is carried out at Aix-la-Chapelle, and points out that the favorable results obtained are due to the thor-

oughness with which the treatment is given. In a concluding remark he expresses his preference for the injection method as a routine treatment.

(*Ibidem,* May, 1912, lxxxviii, No. 5).

Some Practical Points in the Diagnosis of the Exanthemata and Allied Diseases. M. Young, p. 696.

The author discusses the various signs he has found of particular value. The article is quite extensive and that of dermatological interest alone is abstracted. Under the heading "small-pox," he says: A recent successful revaccination speaks against small-pox. If the eruption has existed for 3 or 4 days without any appreciable change it is other than variola. Headache, pyrexia and sacral pain lasting two days and disappearing when an eruption appears, however atypical, may be safely considered as small-pox. The pre-eruptive rashes (scarlatinoid, etc), followed in a couple of days by a papular eruption is certainly variola. The exposed parts (hands, face, wrists) are the first to show the eruption and here too the rash is more abundant. The appearance of the developed vesicle is characteristic (a new sign). The centre is either white with a thin pink circle around it and this in turn surrounded by a white circle, or a pink centre surrounded by a white circle and this again by a pink ring. The variola scar is typical. It is glazed, pinkish-purple and often rayed. In differentiating variola from varicella, the most important points to remember are: the unilocular character of the varicella vesicle; that it is a fully formed vesicle in a few hours (less than 24); that when umbilication occurs it is due not to the so-called "bridle" but results either from a ruptured vesicle or from the vesicle being pierced by a hair, and lastly that the fully-formed varicella vesicle has an areola which is not true of variola. In distinguishing measles from small-pox, the chief points are the presence of catarrhal symptoms in the former, the fact that in measles the temperature continues to rise after the appearance of the eruption and the velvety feel in measles as compared to the corduroy in small-pox. Grisolle's sign is in his experience not diagnostic. Of the pre-eruptive rashes, the triangular rash and similar rashes in Scarpa's triangle and axillæ are characteristic. When these are associated with hæmorrhage (bowels, etc.) "it is hæmorrhagic small-pox and death will ensue about the third day." The scarlatinoid eruption may simulate scarlet fever but it occurs only on the extensor aspects of the limbs. From the pustular syphilide it is distinguished by the occurrence of successive crops and the slight pyrexia.

Scarlet Fever. Here the author has found the following most distinctive. Differentiating scarlet from measles: The eyelids in scarlet fever are pale and have a hollow appearance; in measles they are red and swollen. In scarlet the skin is rough to the touch, in measles, smooth and velvety. In scarlet, though there may be (early) tiny clear spaces, the eruption becomes uniform; in measles clear spaces can always be found. Leeds' sign (petechial hæmorrhages produced by pressure on the skin) he finds quite characteristic of scarlet, though it may occur in measles. In rubeola when the eruption has so coalesced on the body as to create doubt, the legs will show the "spotty" character of the eruption.

The Treatment of the Various Types of Eczema. G. Meachen, p. 715.

A good general review of the subject, but contains nothing essentially new.

Cleveland Medical Journal.

(April, 1912, xi, No. 4).

Abstracted by Louis Chargin, M.D.

Syphilis and Amentia: A Preliminary Report of a Study of 1,050 Cases with Especial Reference to Serological Findings. W. C. Stoner and E. L. Keiser, p. 251.

The writers give the results of the Wassermann reaction made in 1,050 cases of amentia. They found 7.9% positive reactions. Other authors variously report from 1.3 to 33.8%. Their conclusions are: The great variance in the percentage of positive Wassermann reactions is probably due to the class of amentia studied and the character of the work done by the serologist. Syphilis in amentia as evidenced by serological examinations does not parallel the clinical findings. A history of the parentage and a clinical study of the child, in the cases found positive serologically, do not permit any definite conclusions as to the cause of the mental condition. Notwithstanding the relation syphilis may have to the condition, the prevention of amentia must be met from the standpoint of heredity.

Lancet Clinic.

(April 13, 1912, cvii, No. 15).

Abstracted by Louis Chargin, M.D.

Researches in Prophylactic and Anaphylactic Medicine. B. K. Hirschberg, p. 415.

The close relation that anaphylaxis bears to certain skin eruptions brings this paper within the scope of The Journal. It is, however, impossible to properly abstract this article. A perusal of the original will well repay the reader.

Southern Medical Journal.

(April, 1912, v, No. 3).

Abstracted by Louis Chargin, M.D.

Pellagra: Treatment by Direct Transfusion of Blood: Review of 31 Cases. H. P. Cole, p. 167.

Transfusion has been resorted to only in cases in the last stages of pellagra, or those steadily retrograding under prolonged and careful treatment. Thirty-one cases were transfused with a percentage recovery of 58, as compared with 10 to 20% in this type of cases treated in any other way. In conjunction with the transfusion, all other approved therapeutic measures were employed, but such measures were without benefit previous to transfusion. No advantage has been noticed in the employment of a donor who has recovered from pellagra, or in that of a relative of the patient. Neither hæmolysis nor agglutination, thrombosis nor embolism has occurred.

Erratum.

On page 397 of the July, 1912, issue the fifth line of the third paragraph should be omitted. We apologize to Drs. Duval and Wellman for this unfortunate error.

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EDITORIAL.

CANCER IN PLANTS.

THE striking external resemblance of the various excrescences appearing on plants to human tumors has frequently been commented upon and a possible relationship between abnormal growths in animals and plants often suggested. It is only recently, however, that the plant pathologist has succeeded in showing the existence of conditions in the vegetable kingdom which were any more than analogous to those of true human cancer. Thanks to the investigations of Erwin F. Smith and others, we now have at least one plant disease which produces a growth practically the same as that found in animal tumors. Indeed, were it not for the fact that we know the cause of the disorder in plants we might justly maintain with Jenner that the conditions were precisely alike. This so-called "crown gall" of trees and shrubs has been known in this country for fifty years and produces serious injury to roses, raspberries, grapes, various fruit trees and other hosts. During the rather extensive investigations carried on by numerous botanists, every conceivable cause has been connected with this disease. Parasites, bacterial and fungal, including the myxomycetes, as well as insects, have definitely been ascribed as the source, also such external factors as frost and accidental wounds. More recently, however, the consensus of opinion has been that the disease was due to some unknown physiological disturbance. Nowhere in pathological literature can we find a more striking parallel in the discussion of the ætiology of two diseases than in that of crown gall and human cancer.

In most of the plant tumors which have been supposed to be analogous to cancer, the resemblance has stopped with the external appearance. Such diseases as the club-root of cabbage show nothing more than an ordinary hypertrophy, but in crown gall we find a true

hyperplasia. The cell itself is the disturbing force and we have an enormous multiplication without any reference to the physiological needs of the plant. There is no visible parasite present, neither are abscess-like cavities formed. Still more interesting is the production of strands of tumor tissue which produce secondary tumors a considerable distance from the original infection. In these secondary tumors there is the characteristic tendency to take on the structure of the organ in which the primary tumor developed. Spontaneous recovery from the crown gall disease is not infrequent and the plant may usually be saved by complete extirpation of the tumor tissue. Likewise there is, in certain plants at least, an acquired immunity. Indeed, about the only difference which remains is that in the case of cancer we know absolutely nothing as to the origin of the growth, while in crown gall it has definitely been proved to be due to the presence of a bacterium which can be isolated and reisolated and by which the disease can be produced at will. Several years were spent in careful work before the organism in question (*Bacterium tumefaciens*) was finally secured. In the first place the parasite occurs in the plant tumors in extremely small numbers and the only way in which cultures can be obtained is by using thousands of times as much material as one would under ordinary circumstances. Secondly, the living bacteria in the tumor appear to be in a quiescent state and it is necessary to give them an opportunity outside of the plant tissue to recover before they will grow actively. Finally, these organisms are extremely slow growers and retain their virulence under ordinary conditions for but a little over a week. All of these peculiarities combined make it a difficult matter to recover it in a pure culture and account for the long delay in recognizing it as the causal organism. Even after it was definitely known that crown gall was due to a microörganism and hundreds of successful inoculations had been produced, the greatest difficulty was experienced in locating the bacterium within the plant tissue. Various methods of fixing and staining were employed but without success and it is only within recent months that a perfected technique has enabled the bacteria to be definitely identified within the tumors.

Naturally, the most interesting question involved is whether animal tumors may be produced by means of the crown gall organism. Since the latter grows at a little under the blood temperature of warm blooded animals, it is not to be supposed that any results can be obtained from inoculation experiments. In cold blooded animals, however, the conditions are apparently favorable, for in-

oculations into fish produce well-developed nodules in the connective tissue and characteristic giant cells are formed. In short, the condition produced is such that if it were found in man there would be no hesitation in calling it a true sarcoma.

While no one is prepared to maintain that the definite proof of the parasitic origin of the crown gall disease in plants is of itself indicative of the parasitic origin of cancer, it must be admitted that the almost precisely parallel history of the two disorders with their closely comparable results is extremely interesting and suggestive.

George D. Moore, Ph.D.

DERMATITIS PUSTULOSA VEGETANS RECURRENS.

By George Pernet, M.D., London, England.

IN 1908, a patient with an unusual cutaneous condition was sent to me by Dr. Ransome of Bungay and admitted to the hospital. The following notes were kindly supplied by Dr. Ransome, who had had the patient under observation:

"She was confined in January, 1906. It was a normal labor assisted by forceps. Both the mother and the infant were quite healthy. The skin disease started in August, 1906, on the scalp, the whole of which was rapidly affected, forming one extensive suppurating surface. She was admitted to a local hospital (August, 1906), and remained there for about five months. During her stay in the institution, the vulva and inner parts of the thighs became affected. Various treatments were tried, but sprinkling the scalp freely with iodoform and then applying boracic acid fomentations, with fairly large doses of liquor arsenicalis (m x) seemed to do the most good. Eventually the patient was discharged practically cured. The condition soon relapsed, however, and the patient was admitted to the Norwich Hospital where she remained for some months. She improved considerably, but soon relapsed again on her return home. She has never been quite free from lesions since the onset of the disease.

"When the patient first came under my care for the skin trouble, she was very debilitated and suffering from colitis as well, passing much blood and mucus. I concluded that the mucous membrane of the colon was affected in a similar manner to the skin. The colitis soon improved and was apparently cured in a few weeks as a result of plenty of good food and castor oil every morning, but I believe she has had a return of the colitis since. The teeth were in very bad condition (probably the primary cause of all the trouble), but the patient was in such a horribly septic state that I feared to remove them."

The patient, who was twenty-six years of age, first came under my observation in April, 1908. The disease had existed, intermittently, in the way described by Dr. Ransome, for nearly two years. The eruption now involved the scalp, nose, back and the neighbor-

hood of the external genitalia (Diagrams 1, 2 and 3). The following notes were made:

"The illness began nearly two years previously on the scalp and nose as tiny nodules, whitish in color, which discharged a clear fluid. Later, the discharge became purulent and the lesions became larger, resembling 'blisters.'* The patient went to a local hospital and while there (August, 1906, to January, 1907), the vulva became affected. She improved, but soon after her return home, she relapsed again and was sent to the Norwich Hospital, where she remained from February to April, 1907. Improvement again occurred only to be followed by another exacerbation. The back became involved in the beginning of April, 1908." The patient gave the following account of herself and family:

"Menstruation began at about the age of fourteen and was quite regular until her marriage, three years previously (April, 1905). The only child was born in January, 1906, was breast fed for six months; no menstrual period occurred until nine months later (about September, 1906). She then menstruated at intervals of six, three, and three and four months, but the discharge was scanty in quantity. There was no discharge from the vagina or elsewhere until the beginning of this illness. There was no history of any illness as a child, except measles. Nor was there a history of any skin disease in the family. Her father is living and healthy; her mother is living and in fair general health with the exception of being a sufferer from rheumatism. Her brothers (four) and sisters (two), are all living and healthy. Several brothers and sisters died in early infancy. Her own baby is quite healthy as, also, is her husband."

Present Condition.

Scalp. The whole of the scalp is involved including, in front, the greater part of the forehead and extending at the back, half way down the neck. On the sides of the neck, the disease extends to the angle of the jaw on the right side. The ears are continuously and almost entirely involved. These areas are thickly crusted and there is a good deal of thickening of the scalp and of the adjacent parts of the glabrous skin, with pus exudation of a honey-like consistence; and a tendency to form circles and segments of circles of pus lesions at the margins. On the glabrous parts, the lesions are raised markedly above the level of the adjacent normal skin, especially on the back of the neck and are of a bluish-red hue. The surface is irregularly nodular, especially about the back of the neck. On the forehead, the parts are thrown into folds—an accentuation of the normal ones. About and below the ears, there are numerous small pustules, chiefly on the borders and their character is more or less the same as that of the lesions obtaining in other parts, except that in the latter (*en nappe*) the process of pustulation is obscured. About the right eyebrow there are numerous small, exuding, closely aggregated pustules forming a raised, vegetating patch, encroaching on the upper eyelid below and above, joining onto the main scalp area of infection.

Nose. The nose is thickened at the end and nodular (Cyrano de Bergerac type), with eversion of the alæ and exhibits the small pustular, exudating lesions, having the appearance of vegetations, but the pustulation does not extend beyond the limen vestibuli or true nares. There is a small adhesion on the outer part of the right nares (cicatricial). (The nose was examined by Mr. Herbert Tilley).

*Note. The word blisters is used in a very loose way by the people and does not necessarily mean a bulla. As a matter of fact bullæ were not observed.

Back. The greater part of the centre of the back is occupied by a large, raised patch. The upper part of this area is somewhat less raised than the lower two-thirds and is pigmented. The remainder of the patch is made up of myriads of small pustules. The edges are irregularly contoured and beyond are scattered discrete, small pustules, spreading onto the unaffected parts. On this lower part of the back area there was at first a good deal of crusting which improved fairly rapidly under an iodoform ointment (gr. v. to oz. i). On the right shoulder, there is a small patch made up of a number of small pustules.

Right Axilla. The right axilla in front shows a similar condition as elsewhere, infiltration, pigmentation and small pustules being present.

Mouth. There were a few small vesiculo-pustules in the mouth when the patient was first seen, but before she came under observation they were more numerous.*

Pubes and Vulva. The whole of the pubic region, with the vulva and the ilio-inguinal and perineal areas, are all involved in the same way as the other parts. The patch is markedly nodular about the pubes and the labia majora, which are greatly enlarged. When the patient was first admitted there was a large amount of crusting in these regions.

Umbilicus. There is also a focus of pustulation, some infiltration and pigmentary discoloration about the navel.

Treatment. An ointment of iodoform (gr. v. to oz. i) constantly applied, was ordered on admission and at first the results were very good and encouraging, many of the patches becoming, at any rate in parts of the larger areas, flattened and cleaner. But notwithstanding perseverance with the local treatment, the patient's general condition being attended to at the same time, especially as regards the septic condition of the mouth, disappointment followed and a relapse occurred, with the development of new areas. The disease spread further down on the forehead anteriorly, involved the sides of the face, attacked the front of the neck, spread about the chest, shoulders and axillæ and, at the same time, the back became more and more involved. On September 8, 1908, the patient was worse than ever, although her teeth had been seen to and her mouth attended to carefully.

The index to staphylococcus was 1.26. An autogenous vaccine, prepared by Mr. Embleton, was tried and gave some result. The improvement was slow at first but more marked later.

Writing under date of Nov. 10, 1911, Dr. Ransome informs me "That the patient still relapses at varying intervals. On one occasion the skin lesions cleared up with startling rapidity under a much advertised quack remedy, but the cure was not permanent and on subsequent occasions the same remedy utterly failed to affect the disease in any way. Although the teeth have been thoroughly attended to, this does not seem to have had the beneficial effect that was hoped for. Vaccine treatment appears to do her more good than anything, but she has recently recovered from an attack under the use of local measures without the aid of vaccines."

Commentary.

Such are in brief the details of a very unusual condition, which threatens to go on indefinitely, practically getting well and then recurring.

*Note. The teeth and gums were in a very bad condition indeed, as insisted on by Dr. Ransome in his notes. A reference will be made to this point when touching on treatment.

I had never seen a case of the kind before, nor had the late Radcliffe-Crocker, when he was shown the patient. She was then improving on the iodoform ointment and general measures. I suggested to him that the condition came nearest to what Hallopeau had described under the title of "Dermatite pustuleuse chronique en foyers à progression excentrique,"[1] and after looking it up he agreed with that view. We showed the case together at the June meeting (in 1908) of the Royal Society of Medicine (Dermatological Section),[2] but no one present appeared to have seen anything like it. The name I then suggested was "pustular, vegetating dermatitis, with pigmentation changes," the condition coming nearest to the case described by Hallopeau, but having some affinities with impetigo herpetiformis. I found on looking through the *International Atlas for Rare Skin Diseases*, that Hallopeau's case was much more like this case I have described than Allan Jamieson's instance of impetigo herpetiformis (Plate XXXVIII). Further, on looking up other atlases I found that Hebra[3] gave two illustrations of impetigo herpetiformis. The case represented in Plate IX, is in some respects like the one described by me, but it is more crusted, and more rupioid as far as the satellite patches are concerned. But the condition portrayed in Plate X is more like my case than the one represented by Plate IX. Again, there is Auspitz's case of herpes vegetans[4] which must be mentioned in this connection, especially as regards the vegetating element present in my own case. Since then Kaposi has depicted impetigo herpetiformis in several plates of his Hand Atlas. Plates CXXIX and CXXXI are not like my case, while Plate CXXVIII comes nearer to it, yet with certain differences. Neumann's Plate IX does not resemble the state of things seen in the woman under my care. In his Lehrbuch, Neumann[6] refers to his case as herpes pyæmicus.

On the whole, I came to the conclusion that morphologically speaking, my case was more like Hallopeau's than the cases of impetigo herpetiformis, herpes pyæmicus and herpes vegetans above referred to. On the other hand, although it may have some affinities with impetigo herpetiformis, my case does not fit in with the general conception of that disease as described by Hebra[7] and Kaposi[8] and synthetized, for instance, by Radcliffe-Crocker[9] in his third edition, in the preparation of which I helped him. Indeed, the recorded cases of impetigo herpetiformis, apart from Kaposi's generally, present differences. But it is not my object to discuss impetigo herpetiformis. My desire is rather to point out that there may be links con-

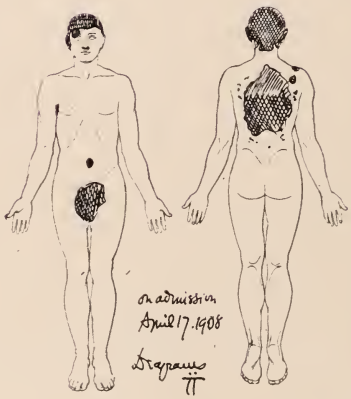
necting my case with impetigo herpetiformis, although the latter, in the classical descriptions at any rate, has a different course and is attended with severe constitutional symptoms. Stelwagon,[10] further, mentions in his synthetic definition, that the disease is "preceded and accompanied by grave systemic disturbance, and usually ends fatally. As I have insisted before when speaking and writing of unusual morbid conditions, we must not be narrow in our ideas of a disease, but broadminded and imaginative.[11] I think the reader will see what I am driving at without lingering further on the point.

In the case I have described the trouble commenced some six months or so after confinement and apparently soon after the mother weaned her child, according to her account. In impetigo herpetiformis, I may say in passing that pregnancy and the puerperium appear to have played a part, but against this there are male cases, that is, admitting for the sake of argument that the male cases recorded were really impetigo herpetiformis; one of Kaposi's in any event was a male. In my case, there was a disturbance of the menstrual function. In the case I have described there was certainly an herpetiform appearance of the small satellite patches, made up of numerous small pustules (*pustulettes*, the French would call them), but the patches were more raised and still more so were the large areas *en nappe*, in the scalp, neck and back. Here the "vegetans" aspect was decided. Moreover I would remind the reader that beyond the margin of the scalp there was a tendency of the elementary lesions to form circles and segments of circles. Another point was the pigmentation, another resemblance to Hallopeau's case.

As regards Dr. Ransome's idea as to the colitis being in relation with the outbreak in the skin, I would remark that Kaposi in his Hand Atlas has depicted impetigo herpetiformis *in œsophago* (Plate CXXXIII).

It is inevitable that when dealing with an unusual condition like the one forming the subject of this paper, a name must be provisional. Other observers may later on be able to classify my case more accurately. At any rate I think it is of dermatological interest that the case should be recorded as originally intended at the time the patient was exhibited.

As to ætiology, it is easy to say that it is a staphylococcic infection, but that does not take us very far, for staphylococci are ubiquitous, but the condition I have described is so rare that the late Radcliffe-Crocker with all his experience, had never seen a case like it. There is something more to be found out about a malady which


on admission
April 17. 1908
Diagram
II

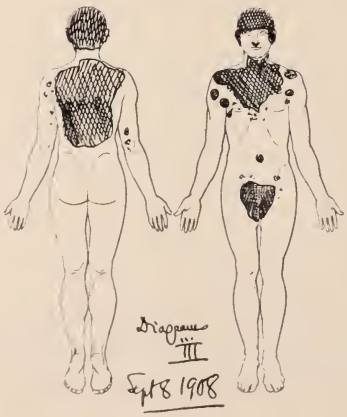


Diagram
III
Sept 8 1908

comes and goes in the way described, and which I have ventured to name dermatitis pustulosa vegetans recurrens, a merely descriptive label I know.

My case is not identical with Hallopeau's, but probably both are of the same nature, notwithstanding certain differences. Whether these are related to impetigo herpetiformis is another story. But I would here call attention to Dubreuilh's account of impetigo herpetiformis[12] in which he deals with Hallopeau's "dermatite pustuleuse chronique centrifugé" (no doubt the same case of Hallopeau's I have referred to) in the differential diagnosis.

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TRICHLORACETIC ACID AS A KERATOLYTIC IN SEBORRHŒIC KERATOSIS.

By Douglass W. Montgomery, M.D., and George D. Culver, M.D., San Francisco.

SOME years ago a patient consulted one of us, recommended by Dr. Charles N. Davis of Philadelphia. The ailment for which she called is now forgotten, but during the visit it was noticed she had traces of a patch of seborrhœic keratosis that had been removed so cleverly that even the natural markings of the skin were retained. Up to that time we treated seborrhœic keratoses with an ointment of salicylic acid and sulphur, with marked improvement, but with no cure. The patient told us Dr. Davis had applied something that stung and immediately afterwards had soaked the spot for some time with wet compresses. We instantly wrote asking what

he had used. By return mail he answered "Trichloracetic acid. Try it. You will never regret it." Since then we have never been without this valuable agent.

Though seborrhœic keratoses most frequently develop on the skin of the elderly, yet it is not uncommon for them to occur in early adult life. Other evidences of seborrhœa are almost always present and the crusts are only aggravated forms of deranged sebaceous functions, the derangement having been present a long time. They may be superficial, thick, greasy, muddy brown crusts that adhere lightly and can be removed by gentle, blunt curetting, leaving a freely oozing surface, or they may be hard, horny, firmly adhering crusts, which on curetting tear more deeply into the skin and leave a rougher, more ragged, bleeding surface. Still another form, which is less common, is that of a well-circumscribed, flat-topped, velvety wart-like mass, the covering of which scrapes off easily. Not infrequently, when a patch is of long standing, it will be found that the underlying surface is a soggy, friable mass of tissue that has undergone epitheliomatous degeneration. In fact these seborrhœic keratoses so commonly eventuate in superficial epithelioma that they can be considered an early stage of its development[1]. In all cases of seborrhœic keratosis the disease process is the same, the differences being largely due to the constitution of the skin on which the affection develops. A dry skin will usually have a granular or a hard, tightly adherent crust, whereas an oily skin will generally have a greasy, doughy covering.

Incidentally it may be remarked that it is unwise to tell a patient that he has a senile keratosis, as most people, no matter how old, are sensitive about the word "senile."

These patches are most resistant to treatment by ordinary salves and applications. Besides trichloracetic acid there are other means of treating them, however, such as the X-rays, solid carbon dioxide, electrolysis and fulguration.

It was early noticed that when epithelioma was treated with the X-rays, neighboring seborrhœic keratoses frequently disappeared. Sometimes, however, for some unknown reason, they are refractory to this agent[2]. A good reaction produced with solid carbon dioxide may clear them off. We have had very little experience with the snow in this particular disease, but we do not think it acts so well as trichloracetic acid, nor is it so easy of application, nor so

[1] M. B. Hartzell, *Jour. Cutan. Dis.*, Sept., 1903.

[2] L. Brocq, Maladies de le peau, T., ii, p. 726.

free of discomforts to the patient. Hardaway and Grindon have for many years used electrolysis, and they find it an excellent mode of treatment[1], but it must require quite a length of time to secure a good result. Fulguration with a high-frequency spark is also used successfully, just as it is used for epithelioma and with good results, but it is much slower of application and in our experience is not nearly so thorough as trichloracetic acid. But in one situation fulguration is most successful; in seborrhœic, or any other warts of the scalp, where it is wonderful how quickly the lesion can be battered down by the spark into a greasy mass that can be scraped off like an ointment. Our attention was first called to this special effect of the high tension spark by Dr. L. Duncan Bulkley. It acted so admirably that we tried it on warts in other situations, but with no success. Thinking that the difference in action might be due to the greasy seborrhœic coating that collects on a wart on the scalp, we tried greasing the other warts before fulgurating them, but with no better success.

Patients and usually physicians look upon seborrhœic patches as mere blemishes until they eventuate in epithelioma, and as they develop very slowly and do not pain, they cannot be blamed for neglecting them. In fact physicians have had such uniformly poor success in the treatment of these keratoses that they either speak slightingly of them or assure the patient that interference is dangerous; that it is a "noli me tangere," a "touch me not" patch, that if scratched or rubbed will give rise to trouble. And this is true in so far as meddlesomeness is concerned, which undoubtedly does hasten trouble. Cure of the lesions, however, is a different matter. In advising our own patients we frequently make use of an analogy in dentistry. Dentists have trained their clientele to have tartar regularly removed from their teeth, telling them that otherwise decay will occur underneath the deposit. This is exactly analogous to the subject in hand where the keratosis first forms, followed sooner or later by epitheliomatous degeneration under the crust. Besides having a most desirable prophylactic effect, the treatment, as in tartar, removes an unsightly deformity. In trichloracetic acid, therefore, we have an excellent remedy, giving results as good as those by X-rays, and much easier of application.

If there is much crusting it had better be removed by the curet, and then either the crystals themselves or a saturated solution of the acid is well rubbed into the denuded surface. If the crystals

[1] Hardaway and Grindon, Cutaneous Therapeutics.

are used they may be taken up by pincets, but as they are very brittle and apt to smash, the fragments flying in all directions, care must be taken that they do not enter the eye. If a solution is used it should be as strong as possible. We generally add a few drops of water to some crystals in a salt cellar, but not enough to fluidify the crystals entirely. If they do fluidify entirely, then a few more crystals are added. This is important as the acid should be as strong as possible and freshly diluted, or used full strength. Even blood or serum on the surface will so dilute the acid as to diminish its effectiveness. The remedy is applied with a swab made by winding cotton on the end of a wooden tooth-pick or probe. It should be well rubbed into the spot treated, but allowed to remain only a few moments before applying water to stop its action. A fair guide to the time allowance before soaking with water is the perfectly white appearance of the cauterized surface that usually shows in a few seconds. This is a most important part of the procedure, and it is neglect of this step that leads to over-action or indeed to disaster. Wads of cotton soaked in water should be sopped on and pressed in until all burning sensation has stopped. Water stops the burning and neutralizes the effect of the acid by diluting it.

Our experience with the use of water after application of the acid is interesting. Dr. Davis evidently had used water so freely and so long on his patient as to impress her, for in describing the procedure this was her main theme. A short time subsequent to our first use of the acid one of us mentioned its effect on the skin to Felix Lengfeld, a chemist, who instantly referred to the disastrous case of a fellow chemist, who got gangræne of the fingers while working with it. This made us additionally cautious. On inquiring still further we found that it was much employed by throat specialists and dentists, but seldom by physicians. Dentists, however, are careful, after cauterization, to mop well with bicarbonate of soda solution. It is doubtful, however, if the bicarbonate of soda is of any value, as it is the mopping with water, and therefore the dilution of the acid, that is the main point. Then, again, both dentists and throat specialists are dealing with surfaces that are kept constantly wet with sputum and mucus, and are, therefore, secure from dangerous over-action, while physicians working on the cutaneous surface have no such safeguard. Furthermore, let us be ever so careful, we find that it cauterizes very deeply at times. Although we have not had any ulcerations from it, we have had warnings in the way it will depigment a skin. In fact when judiciously used it is one of the

finest depigmenting agents we possess, and in this way also, it acts favorably on those keratoses that are so often of a dark color.

When only the surface epithelium is cauterized the patch usually disappears without leaving any trace. Sometimes however, the depigmenting action of the acid results in leaving a white area that is not scar tissue. If the true or connective tissue part of the skin is involved either by necessity or accident, then, of course, scar tissue is formed that is usually smooth and white. Keloid or hypertropic scar may, however, result. In every instance where epitheliomatous degeneration has taken place, the connective tissue of the skin must necessarily be involved, and consequential scarring can, of course, not be avoided.

In order to get some inkling of the action of this substance, strong trichloracetic acid was dropped on shavings of horny epithelium. Almost immediately the bottom of the dish got a clear, greasy coating; slowly afterward the shavings swelled up into a clear jelly with a rose tint in it. On examining these shavings or their edges with a microscope we found an immense number of fat droplets, many of which were along the line of junction of the cells with one another. It seemed as if the intercellular substance was principally attacked, and that the fat was being squeezed out of the tissue.

Other epithelial chips were treated with the acid nitrate of mercury and with nitric acid, and in neither instance was the jelly so clear looking and, furthermore, it was more friable. The acid nitrate of mercury caused a bright-red precipitate, which was evidently the red oxide of mercury.

In an unlimited time trichloracetic acid will completely dissolve even the very thick curettings from seborrhœic keratoses. This we were able to demonstrate by sealing some of the crusts with the fluid in a glass tube and putting it aside. After two months the contents were a thick, dark, oily liquid.

As a physician's experience accumulates, nothing so impresses him as the futility or even the danger of trusting to generalizations in the selection of his therapeutic agents. Generalizations are of the greatest value in science in classifying knowledge, and making it easily attainable by oneself and others. When these generalizations are applied in practice to the individual case then comes the rub. Reference is here made particularly to the use of caustics. By some, one caustic is considered just as good as another. No greater error could be committed. Trichloracetic acid is a case in point, as from our experience it acts particularly well on epithelial

structures and is an excellent keratolytic, especially in seborrhœic keratosis. It is, furthermore, our opinion that its good effect on these lesions is in some way connected with its behavior toward fat. Seborrhœic keratosis is undoubtedly a fatty degeneration and is intimately connected with seborrhœa of the general cutaneous surface. It is not strange that trichloracetic acid should have a selective action on fatty epithelium, as its near neighbor, glacial acetic acid, has a strong keratolytic action that has been for long used both by physicians and by the manufacturers of proprietary cures in the treatment of corns. Glacial acetic acid, although it acts powerfully on the surface both as a rubifacient and as a dolorific, is, however, far from having the profound cauterizing effect of trichloracetic acid.

There are many other uses for this admirable remedy, but in the present paper we have limited ourselves to a consideration of its employment in one disease, where it acts particularly well.[1]

THE SINGLE-DOSE X-RAY METHOD.*

By George M. MacKee, M.D., and John Remer, M.D., New York.

THE rapid evolution of radiotherapy from the first experiments of Schiff, Freund, Kümmel, Kienböck and Scholtz, through the optimistic and pessimistic eras to the present time and the gradual construction, by able and persevering scientists, of a solid foundation upon which the specialty (if it may be called such) has acquired a secure foot-hold, is associated with historical and technical details of no little interest and importance.

For a full appreciation of the subject under consideration, a careful perusal of the literature, combined with some practical experience, is advisable if not essential. In a paper that must be limited to about twenty minutes, it is impossible to quote the literature or to enter into theoretical discussion. It is, therefore, to be understood that this communication is entirely practical, being based upon personal experience combined with a knowledge of the literature. Furthermore, it is only intended as an introduction to the subject. We trust that it will stimulate a desire for a better under-

[1] Dr. M. L. Heidingsfeld has discussed the uses of trichloracetic acid in several other cutaneous affections in a paper published in the *Archiv. f. Dermat. u. Syph.*, cx, p. 245.

* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

standing and appreciation of the nature, of the possibilities and of the limitations of the X-ray as a therapeutic agent.

In the past, radiotherapy has been intimately associated with dermatology, but the technique has become so complicated, exacting and expensive that few dermatologists have equipped their offices with the newer types of apparatus, or perfected their technique, or even remained in touch with the radiotherapeutic advancement of the last few years.

A dermatologist, of course, need not be a radiotherapeutist, but a radiotherapeutist, besides being experienced in medicine and radiology, should have, also, a fair knowledge of dermatology.

To be a thorough student of the X-ray it is at least advisable to have some experience in radiography, for the knowledge thus gained will be of great help in radiotherapeutic technique.

Radiotherapy seems to be gradually separating itself from dermatology and radiography and it is not impossible that the future will see it develop into a real specialty. Although radiography has marked limitations, yet with the recent improvement in technique, the field is gradually broadening and the results are becoming more reliable. The work is, however, still in its infancy and future developments may or may not add to its importance.

We do not wish to be considered as X-ray enthusiasts, not even optimists. But we do think that one should become thoroughly conversant with the subject before it is advocated or condemned. Radiotherapeutic papers have been written by prominent dermatologists that to a radiotherapeutist showed lack of attention to technique. Such communications are harmful whether speaking for or against the X-ray. In a recent conversation with a very eminent and respected dermatological colleague, he said, among other things derogatory to radiotherapy, that one could not master dermatology in a lifetime, but that everything pertaining to the X-ray could be acquired in six months. The first statement was indeed modest, but although in point of knowledge there can be no comparison between the two subjects, we hope to demonstrate that the second statement was at least a trifle exaggerated.

After this rather lengthy digression, we will endeavor to adhere to a discussion of the so-called single-dose X-ray method. The term "single-dose method" is a faulty one because it is misleading. It does not mean that the maximum amount of benefit must necessarily follow a single application. It is intended to signify a radical departure from the former fractional-dose method where small and

repeated applications were made until the desired result was obtained. This often necessitated from fifteen to a hundred or more exposures in the treatment of a small rodent ulcer. With the single-dose method, on the other hand, from one to four treatments may be required in the treatment of a given lesion. Furthermore, a definite attempt is made to measure the amount of X-ray administered, so that the method is scientific and is associated with a considerable degree of accuracy. We wish it understood at the outset that besides certain modifications of technique and, perhaps, a few pertinent suggestions, there is nothing original offered in this communication.

Efforts to actually measure and prescribe a scientific dose of the X-ray were made by Holzknecht as early as 1902, since which time various experimenters have elaborated various instruments and techniques for the purpose of separating radiotherapy from empiricism. Noteworthy and gratifying results were first obtained in Germany, then in France and finally in England. That the various methods of precision have never met with favor in America is not greatly to our credit.

Roughly speaking, there are and have been two methods of administering the massive or single X-ray dose: one in which the quality of the ray is ascertained by the use of instruments, while the quantity is estimated by the duration of exposure, the amount of current employed and the distance of the tube from the lesion. The second method consists of employing the usual qualitative instruments with the addition of estimating the quantity by the use of pastilles composed of platino-cyanide of barium.

Although both methods are difficult, and neither can be said to be absolutely accurate, let alone being fool-proof, the first is certainly the more unreliable and is associated with more troublesome and perplexing details.

We will first briefly discuss the so-called method of experience. The first requisite is to determine the quality of ray employed. This is readily accomplished by the Benoist radiochromometer which ascertains the maximum penetration. It must be remembered, however, that this instrument does not register the rays of varying quality emitted from a tube, but only those of highest penetration. In a general way it may be said that rays of No. 3 or 4 Benoist are soft, No. 5 or 6 medium, and No. 7 or 8 are hard. It is now possible to determine the necessary amperage, milliamperage, spark-gap and rate of interruptions (if a coil is used) to obtain any given ray-penetration with any one tube. Every tube is a law unto itself

in this respect and every tube undergoes a change as it becomes "seasoned," so that the test for penetration must be frequently made. It is not safe to rely entirely upon the parallel spark-gap or instruments that register the tube resistance. The spark-gap will, however, under proper conditions, serve to indicate the tube vacuum during the exposure. If a coil is employed to actuate the tube, a given number of interruptions per second and a given amperage of current must be maintained throughout the exposure, for a change in these factors may modify the degree of penetration, as well as increase or decrease the quantitative value. All types of interrupters are unsatisfactory, troublesome and difficult to keep regulated, some, of course, more than others.

The next requisite is to estimate the amount of current. This is done largely by the milliamperemeter, which will not read accurately unless all inverse current is destroyed by properly constructed and adjusted valve tubes. The inverse current is a source of great trouble and it must not be allowed to pass through the tube. Small quantities of this current can be detected by means of the oscilloscope and a mirror. The adjustment of the vacuum of the valve tube is a matter of considerable importance, for if too high it will increase the resistance in the secondary circuit without necessarily altering the penetration of the ray. If too low, it will allow inverse current to pass.

Now, assuming that it is possible to maintain a constant quality of ray throughout the exposure, also a uniform number of interruptions per second and a fixed milliamperage with perfect freedom from inverse current, it is conceivable that it might be possible to judge the quantity of ray administered by the length of exposure and the distance of the tube from the skin. Experience has taught that this is possible, especially where the so-called interrupterless transformer is employed. With this apparatus there is no inverse current, no interrupters and the current is unidirectional and controllable. The objection to the method is that there is no quantitative mechanical or instrumental check to the recorded observations. The necessity for controlling human observation is apparent when one considers that the most skilled workmen through overconfidence or from other causes, are far from being infallible. Then, again, a given technique is safe only while the operator is employing the same instruments and apparatus. A renewal or readjustment or a change in the type of any apparatus or instrument necessitates a reconstruction of the technique. Another difficulty is

the maintenance of a constant tube vacuum during the exposure. A certain latitude is allowable, but if one begins with a No. 6 Benoist and the quality drops to a No. 4, the tube must be replaced by another whose anode is the same distance from the skin. Anyone having had experience with the X-ray will be enabled to read between the lines and will probably agree that some little skill is necessary to overcome the obvious difficulties.

We will now pass from a discussion of the method of experience to that of precision—namely, the use of the color index. Holzknecht, in 1902, taking advantage of experiments made in 1894 by Goldstein, in which it was ascertained that certain chemicals were colored by the cathode rays, discovered a chemical combination that would undergo a change in color when acted upon by the X-ray. Then, having in mind Kienböck's law to the effect that the degree of cutaneous reaction depended upon the quantity of X-rays absorbed by the skin, he invented a graduated color-index or control scale and designated the various shades as H units. This instrument, chromoradiometer, was ingenious and a step in the right direction, but it was finally proved to be unreliable and was removed from the market.

After Freund, Kienböck and others had devised various means of quantitative measurement, all of which failed to give satisfaction, Sabouraud and Noiré, in 1904, conceived the idea of utilizing for therapeutic purposes Villard's observation to the effect that the double-cyanide of barium underwent a color change when under the influence of the X-ray. Although being a decided advancement over previous methods, Sabouraud and Noiré's technique was associated with numerous difficulties and marked limitations. It will be recalled that the control scale consisted of two pieces of paper painted with water-color. Tint A represented a normal pastille, while tint B corresponded to the color the tablet would assume when enough ray had been administered to produce a defluvium without an associated erythema. There were two noteworthy objections to this method: It was difficult to make an accurate comparison because the water-colored tints did not possess the brilliancy of the barium salt and the therapeutic efficiency was limited by not having a graded color-scale. Holzknecht overcame these two important factors when he devised his new instrument (radiometer). This instrument, which is widely used at the present time, consists of a thin celluloid band or ribbon which is colorless at one end and which gradually assumes a deep, reddish-brown as one progresses toward the other extremity. An unexposed half-tablet of platino-cyanide of barium is placed

under the celluloid ribbon; another half-tablet, which has been colored by exposure to the X-ray is placed under a piece of colorless celluloid and brought into contact with the first half-tablet, the two forming a perfect disk. This disk is now slowly moved along the color ribbon until the tint of the entire tablet is uniform. A reading may then be made in H units. This method of color comparison is so accurate that with a little practice one-quarter of a unit may be estimated without difficulty. In chromometric comparison the instrument is very similar to Fleischl's hæmometer.

Both of these methods are open to similar objections. In the first place, the tablet must be situated exactly midway between the anode of the tube and the skin. Inasmuch as the pastilles are not very sensitive it was considered advisable, in order to increase the latitude in reading the color-change, to have the tablet in this position in order to enhance the modification in tint. While it is not a particularly difficult task to fix the pastille at mid-distance it is another matter to keep it there. In removing the tablet for observation, care must be exercised to replace it exactly in its former position. If one tube is replaced by another during the treatment the skin-focus and the pastille-focus must not be altered. Finally, the support for the tube must be rigid unless the pastille holder is attached to the tube, and above all, the part to be exposed should be firmly fixed. This last requirement is not always easy as, for instance, in the case of a child's head. Holzknecht's units are based upon the cutaneous effect produced at a skin-focus distance of 30 centimetres, a measuring-piece focus distance of 15 centimetres and a space of about 5 centimetres between the wall of the tube and the reaction disk. In addition to this the quality of the rays must be maintained at No. 5 of the Benoist-Walter scale. If the technique is correct, the result will correspond with the change in pastille-color as designated in H units.

Hampson, of England, has overcome many of the difficulties of the half-distance method by lessening the skin-focus distance and adopting Bordier's idea of placing the reaction-piece on the skin. This, of course, shortens the exposure so that a normal dose can be administered without overheating the tube. Hampson's technique is based on the following principles: the regulation Sabouraud-Noiré skin-focus distance is 15 centimetres. It is a well-known fact that the effect of the X-ray varies inversely with the square of the distance. The square of 15 is 225. Half of this number is 112.5 which is approximately the square of 10.6. It is obvious that at 10.6 the

result may be obtained in one-half the time. At this distance the skin will be within 3.1 centimetres of the wall of a tube having a radius of 7.5 centimetres and this has been found sufficient to avoid the effect of heat on the tablet. Having the measuring-piece and skin-focus distances the same, increases the color value four times and, correspondingly, necessitates a color-judgment four times as great. Hampson has devised a color-scale consisting of twenty-four water-color tints, corresponding to four epilating doses by his method, or one such dose by the half-distance method. The author advises, on account of the wide discrepancy in different eyes, to use four instead of six Hampson units for an epilation dose, at least until some experience has been gained.

The main objections that we have found applicable to Hampson's technique are the lack of brilliancy in the water-color tints and the fact that it is impossible to place the pastille in contact with the color-scale. Where such a delicate and careful comparison is required these factors are important.

For the purpose of obtaining all the advantage of Hampson's method and at the same time overcoming many of the difficulties, we have modified Holzknecht's technique in much the same manner that Sabouraud and Noiré's procedure was altered by Hampson. The technique now employed is as follows: With three milliamperes of current the tube and parallel spark-gap are regulated so as to produce a No. 6 Benoist ray, which is maintained throughout the exposure. The amount of current, the number of interruptions, the type of apparatus employed, or the duration of exposure make no difference as long as the quality of the ray during the entire treatment is known and the exposure is terminated when the pastille has acquired the desired color. Considerable latitude is also permissible with regard to the skin-focus distance. It may be 30, 15 or only 10.6 centimetres. It should never be short enough, however, to bring the tablet within 3 centimetres of the wall of the tube, for at this distance the heat from the tube may damage the pastille. The reaction-piece is covered with very thin, black paper to protect it from light, heat, moisture and dust, and placed on or near the lesion. The Holzknecht, like the Hampson control-scale is intended for use with electric light. This is an advantage over daylight as artificial light enhances the contrast of the colors. It has been stated that artificial light does not rob the exposed pastille of its color, while daylight does do so. This is a mistake, for we have found that an exposed pastille, when placed within a foot of a 16-candle-power

incandescent electric bulb will lose its color almost if not quite as rapidly as by daylight. The treatment must be occasionally interrupted for the purpose of determining the amount of color in the reaction-piece. Obviously these examinations should be as short and as infrequent as possible. If long examinations are indulged in an allowance must be made for loss of color. Comparison should be made with a fairly strong light and against a black background. It is advisable to always use the same amount of light at the same angle of incidence. The full dose may be given at one sitting or it may be divided between two or more treatments. The tablets may be used several times, but they must be compared with the index each time they are employed. If the same tablet is used several times at one sitting as, for instance, in multiple, scattered lesions, the reading may be continuous. But if the reaction-piece is used once and not utilized again for a day or two, it should be compared with the index, for some color will be lost even if the tablet has been kept in the dark. Exposure either to daylight or artificial light will restore the pastille to its original color. Repeated use, the heat of the tube, heat of the sun, age and probably other causes will, after a time, prevent a return to normal. Such tablets, although they may be utilized are usually discarded. The time of exposure will depend upon the amount of current and the focus distance. It is possible but not advisable to color a pastille in a minute or two. Exposures ranging between five and twenty minutes are suitable.

In regard to dosage the unit 1 H is one-third of the quantity of X-ray that can induce an erythema of the skin of the face of an adult. This corresponds to 2 X units of Kienböck's instrument and 5 H are necessary for the tint B of Sabouraud and Noiré's original instrument. In order to obtain the maximum effect of the ray without visible reaction Holzknecht has formulated the following doses: For middle-aged adults, 2 H to the face; to the head and joints 3 H; and to the body 3.5 to 4 H. For children, 1 H, 2 H and 3 H respectively. To aged individuals, 3 H, 4 H and 5 H respectively. These are known as normal doses and a lapse of three or four weeks should occur between two such treatments applied to the same area. Hypersusceptibility does not appear to be an important factor although it should be borne constantly in mind.

This dose-table is computed for a pastille-focus of 15 centimetres and a skin-focus of 30 centimetres. With our technique, in which everything corresponds to Holzknecht's method except the focus distance, 1 H equals 4 H of the original scale. The smallest dose we

give is ½ H to epilate hair in ringworm of the scalp and the largest dose 2½ H in some cases of epithelioma. It is possible to use these pastilles in conjunction with a filter when the deeper tissues are to be treated. All that is necessary is to place the filter over both the lesion and reaction-piece. The reading of the tablet will be correct, just as when a very hard tube is employed, but the value, in so far as the visible effect on the skin is concerned, is less. Very soft rays will cause the tablet to react more quickly than hard rays, but under a No. 3 or 4 Benoist, the skin will respond more promptly than the reaction-piece. A normal dose must never be administered to an area that has been subjected to the action of irritating applications.

Now in regard to the advantages of the single-dose method. It is now possible to obtain a defluvium of the entire scalp in from 16 to 25 minutes. The entire surface of the body, if necessary, could be given a normal dose in a very short time. This possibility cannot, however, be made use of in diseases such as mycosis fungoides for fear of causing toxic symptoms. In this condition, where there are many lesions, it is only necessary to expose each lesion once, the treatments being given once or twice a week. Sycosis will usually heal under the influence of a single epilating dose. Several years ago, when we were applying the fractional-dose method, we often gave from 15 to 100 or more treatments, extending over a period of weeks or months, in the treatment of epithelioma. Very often the tumor or ulcer would improve for awhile and then continue to grow worse in spite of additional treatment. Relapses were common and appeared to be more severe than when occurring after surgical measures. The recurrences, also, were not favorably affected by X-radiation. This does not appear to be the case since the advent of the single-dose method; and why? The most reasonable hypothesis is the following: In the empirical or fractional-dose method considerably more ray is administered than is necessary to cure the epithelioma. These mild exposures, until the cumulative effect occurs, are stimulating and when continued over such a long time the tissues are taught to protect themselves against the ray. In other words, an X-ray immunity is established. This same effect is seen, also, in other diseases in which radiotherapy is of value such, for instance, as leukæmia. With the more scientific single-dose method the exact quantity and quality of ray necessary to cure a given lesion is administered in from one to four sittings. We cannot, in this paper, discuss the treatment of the various dermatoses by this

method, nor can we even mention the various methods of qualitative and quantitative estimation. Suffice it to say that better results are obtained in many of the cutaneous diseases amenable to X-ray treatment, the method is scientific and time saving, but has not been successful, so far as we are aware, in curing cutaneous affections that were not benefited by the older method.

Although the technique is somewhat difficult, exacting and expensive, the results are worth the trouble. As a final word we would advise the novice to become thoroughly acquainted with the technique through experimental work before employing it in practice.

DISCUSSION.

Dr. Pusey said that as he had not used the single-dose X-ray method, he could not discuss the technique, but he wished to call attention to the fact that all of these metric methods of using the rays were based on the postulate that there was no considerable variation between individuals in susceptibility to X-rays, which view he thought was as erroneous as was the proposition that all people were equally susceptible to sunlight. The speaker said that the results of his own work with the X-ray led him to favor the fractional-dose method, and while he saw no great objection to giving a dose large enough to effect the cure of lesions covering small areas, he would not care to expose large areas, such, for example, as that over a leukæmic spleen, to such a method of treatment. As to the quality of the results that were obtained by the fractional-dose method as compared with the heroic dosage, his experience has also been in favor of the former. He had never had an epithelioma stimulated by the use of fractional doses of the X-ray, and in his own work he gave doses large enough to cause a rapid subsidence of such lesions. The lesions were cured—not simply healed—and whenever he got a good scar he felt reasonably sure that the cure would be permanent. His experience with the use of heroic doses of the X-ray in epithelioma was not in accord with that of the essayists, and his results had been better from limiting himself to small, repeated doses. Dr. Pusey said that while he was glad of the efforts that were being made to secure more scientific accuracy in our X-ray dosage, still he believed that the most important factor in order to obtain results from radiotherapy was personal, first-hand familiarity with technique. It was analogous to the use of any other complicated instrument, personal dexterity being the first essential.

Dr. Zeisler said he believed that the technique described by Dr. MacKee and Dr. Remer, indicated a signal advancement in our methods to secure greater accuracy in X-ray work, and he thought the keynote had been sounded by the readers of the paper when they advanced the proposition that some day there would be a distinct radiotherapeutic specialty. We, as dermatologists, would probably never be able to make practical use of these methods, and the speaker did not believe that they would ever become popular with practitioners, as a class. The work would have to be turned over to certain men skilled in this special line. If we were to do our therapeutic work under our own eyes and with instruments which we could control ourselves, he thought it would be a long time before we could make use of these devices, excellent as they were. Otherwise, Dr. Zeisler said, he could fully subscribe to what Dr. Pusey had said. It was necessary to know exactly what we could accomplish with our X-rays; it

was also necessary to know the condition of our tube, and it should be remembered that the condition of the tube was constantly changing.

Dr. Bulkley said that two years ago he went to London and Paris in order to study this method. He spent some time with Dr. Colcott Fox at the school outside of London, and also at the London Hospital and at the Sabouraud Clinic in Paris investigating the treatment of ringworm and favus. Dr. Colcott Fox had 400 beds for children, who were sent there from the Metropolitan Asylum Schools, and then, after they were cured, they were returned to the Asylums, which gave a good opportunity to keep them under observation and watch for recurrences. Drs. Colcott Fox and Adamson were the two attending physicians, and while visiting the institution of which they were in charge, Dr. Bulkley said he saw hundreds of cases of ringworm in children, and he was assured that after this method of treatment, there were practically no recurrences. At Sabouraud's clinic there were originally 300 beds, which by this method of treatment had been reduced to 200, then to 100 and finally to 50; in other words, they were exhausting the supply of cases of ringworm in Paris. In giving the single-dose applications there they used Sabouraud's pastilles, which were attached to the end of a tube by a very simple contrivance. They employed general X-ray epilation in almost all cases, embracing the entire scalp when there were three or more patches. In Dr. Colcott Fox's clinic, the applications were made under a time clock, each head taking about an hour or an hour and a half to cover the five areas in which the scalp was divided, as shown in the speaker's recent article in the *Medical Record*. No distinction was made whether the hair was light or dark, and so far as the speaker knew, they did not have any cases of radiodermatitis, although during their earlier experience with the treatment they had had a few cases of permanent alopecia. Non-irritating antiseptics and frequent washing were advised during and subsequent to the treatment. Dr. Bulkley said that at the New York Skin and Cancer Hospital they had been doing some experimental work along this line, but the pastilles did not seem to work satisfactorily; at any rate, their results had not been as good as those he had observed abroad. The experiments were to be continued and he hoped that in the future, under the supervision of an experienced man, their results would be more satisfactory. Sabouraud, by his work in these cases alone, had saved over $50,000 a year for the French Government.

Dr. MacKee said no attempt had been made to do more than outline the method, as the subject was a very technical one and to enter into details would have consumed an enormous amount of time. The best way to briefly explain the difference between the new and the old radiotherapeutic methods was to say that the former was accurate and scientific while the latter was simply a matter of guessing. The speaker said that he would like to take up the question of the filtered ray, the treatment of large surfaces and other points brought up by Drs. Pusey and Zeisler, but time would not permit it. Success with the single-dose method meant very close attention to technique. If the technique were perfect the results would be exactly as anticipated. To illustrate the necessary attention to detail, Dr. MacKee mentioned two cases; one was a boy with ringworm of the nails. Both thumbs were treated at one time. The thumbs were not fastened as they should have been and one was gradually elevated during the exposure so that it received considerably more ray than its mate. The result was a radiodermatitis. The other case was one of psoriasis where a normal dose caused a marked erythema. This was produced by the combined action of chrysarobin and the X-ray. To obtain accurate and proper results the technique must be perfect, and caution, common sense and vigilance exercised.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, March, 26, 1912.

HERMAN G. KLOTZ, M.D., *President.*

Epithelioma Involving the Inner Canthi, Upper Lids and Eyebrows. Presented by DR. TRIMBLE.

The patient was a woman who presented a large, ulcerating lesion extending from the bridge of the nose in all directions, involving the eyebrows, upper lids, sides of the nose and penetrating some distance into the orbital cavity. The disease first appeared twenty years ago. She had been subjected to minor and radical surgical operations both here and abroad. The Finsen light and radium had also been utilized. Dr. Trimble presented the case in expectation of obtaining therapeutic advice.

DR. ROBINSON said that he did not believe that anyone could cure a case of this kind. Cicatrization might be obtained but it would be only temporary. There had been an almost crater-like extension in this case.

DR. FORDYCE said that the case had made great progress since he had seen it and agreed with Dr. Robinson that nothing could be done for the patient.

DR. KINGSBURY thought that a radical surgical operation was indicated.

DR. TRIMBLE said that in his opinion the case was inoperable and he construed the silence of the members as a confirmation of this view. He had been treating the patient with a vaccine made from the Bacillus neoformans but there was no improvement, although she thought there was some relief from the pain. He intended to continue this treatment for a while, and then probably dismiss the case. He had given 100,000,000 bacteria at a dose but had had no reaction.

DR. WINFIELD suggested that the dose be increased until a sharp reaction was obtained.

DR. ROBINSON said that the changed nutrition due to the vaccine treatment seemed to bring about some improvement for a time.

Von Recklinghausen's Disease. Presented by DR. HOWARD FOX.

The patient (from Dr. Pisko's service at the Harlem Hospital) was a woman forty years of age, born in the United States. She stated that the lesions first appeared about eighteen years ago. They had gradually increased in extent since then. The eruption consisted of immense numbers of small, brownish, pea-sized lentigines, a few irregular, pigmented patches and large numbers of fibromata of varying size and consistency. Most of the tumors were sessile; a few were pedunculated. About half a dozen of the tumors were painful. The patient was a small, slim woman, who apparently enjoyed good health. Her intelligence was somewhat below the average.

Drs. Whitehouse, Winfield and Johnston thought it was a case of fibroma molluscum, while Dr. Dade agreed with the original diagnosis.

Case of Nævus Flammeus. Presented by Dr. Jackson.

The patient was a fully-grown young woman. The whole of the left side of her face, neck and scalp was involved in a continuous, reddish-blue port-wine mark. The whole of the lower lip was swollen to three or four times the natural size and was of the same blue color. The left side of her tongue was of a brighter red than the right side. There were similar patches of large and small size scattered over the left side of the chest, arms and legs. Dr. Jackson said that he proposed to treat the case with the high-frequency spark. He was now working on a less extensive case of port-wine mark by this method, and had obtained marked improvement in the lower half of the nævus. Thus far the result had been better than by any method he had seen used.

Leprosy. Presented by Dr. Winfield.

The patient was a Japanese born in India and had spent some time in the Philippine Islands, and came to this country nine years ago. Dr. Winfield said that when first seen the patient presented what seemed to be an absolutely hopeless case. He was, however, put upon chaulmoogra oil and nux vomica and now there were no lesions upon the body.

Dr. Fordyce said that Dr. Winfield had obtained very excellent results from the use of chaulmoogra oil. He had treated a number of lepers at the City Hospital with increasing doses of the drug and had given as much as 150 minims a day. He had seen the lesions disappear under this treatment but had never obtained any permanent results, as recurrences, in his experience, had always taken place.

Dr. Winfield said that he had presented the patient simply to show the effect of chaulmoogra oil. He did not believe that such cases were ever cured. He had in his service a child with tubercular leprosy who was suffering from an exacerbation of the disease and before the temperature ran up, his glands became enlarged. That was an interesting point. He was going to treat this case with Duval's vaccine.

Annular Syphilide in a Negress. Presented by Dr. Howard Fox.

The patient was a full-blooded negress, nineteen years of age, born in the United States. The eruption was first noticed about six weeks ago upon the left cheek near the nose. It had then gradually spread over a considerable portion of the face. The eruption consisted of superficial, delicate, but firm lesions in the form of circles, semicircles and festooned figures. These were situated upon the forehead extending down upon the upper eyelids, the sides of the nose, upper lip, chin and lower parts of the cheeks. There was one circinate patch upon the chest and there were half a dozen similar lesions upon the upper half of the back. A few small lesions were also present upon the arms. The most remarkable patch was situated upon the left cheek near the angle of the

mouth. This consisted of three complete concentric circles, the outermost having a diameter of an inch and a quarter and forming almost as perfect a circle as if it had been drawn with a compass. Other concomitant symptoms of syphilis, including a positive Wassermann reaction were present.

Epithelioma of the Lip. Presented by Dr. Kingsbury.

This case was shown at the December meeting and at that time the lesion was regarded as a gumma. Anti-syphilitic treatment was continued, but the tumor increased in size and early in January a fairly extensive operation was performed. This was immediately followed by fulguration and later by the X-rays. Epitheliomatous nodules had appeared in the cicatrix. Microscopic sections made from the original tumor showed it to be an epithelioma. These were presented with the patient.

Epithelioma. Presented by Dr. Trimble.

The patient was a woman born in the United States. The lesion had existed for ten months and was located on the extensor side of the arm, about opposite the elbow joint. It was absolutely typical from a clinical standpoint. It had a characteristic rolled border, and at one edge there was a typical group of epitheliomatous pearls, not as yet ulcerated. There was a sharply defined excavation, about two inches in the long diameter, and one and a half inches wide. Dr. Trimble had operated upon the patient and the growth was examined microscopically. The interesting feature of the case was the microscopic slide, which did not seem to be at all characteristic of what one would expect to find in a case of epithelioma. The tissue had been examined by three different laboratories, one of which reported spindle-celled sarcoma; another, embryonal epithelioma; and the third did not desire to give a positive opinion but thought that the lesion strongly resembled a round-celled sarcoma. A microscopic specimen and a photograph of the ulcer before operation were exhibited.

Dr. Howard Fox said that, clinically, the photograph looked like an epithelioma.

Dr. Johnston said that he had examined the section attentively. While it was not a very good one, the opinion might be ventured that the tumor was of mesenchymal origin, not an epithelioma. There was evidently an arrangement about the blood vessels. It seemed probable that the growth was a perithelioma, whether fibroblastic or endothelial was not important. It was certainly a malignant growth, and might be of serious prognosis.

Dr. Wile agreed with Dr. Johnston that it was not epithelioma. The cells were very much smaller. It looked more like an endothelioma.

Case for Diagnosis. Presented by Dr. Fordyce.

The patient was a girl fourteen years old. The mother had noticed the affection on her face during the past nine years. It was located on

the preauricular region and forehead. On these locations there existed countless numbers of pin-point papules very close together but always discrete. They were red in places, especially when irritated. The involved area was rough and harsh to the touch and suggested a keratosis.

Dr. Johnston expressed the opinion that it was a sort of follicular keratosis, possibly congenital but not noticed until she grew older. An erythematous flush commonly occurred on the face. He thought it was due to a purely mechanical block in the superifical venous channels of the skin. The speaker said that he had had an opportunity of following a case in a child of four and in that instance the keratosis was unquestionably primary. After a while, when along towards puberty, the flush appeared and became more and more pronounced.

Dr. Howard Fox thought the most probable diagnosis to be nævus. It was at all events a most unusual clinical picture and bore a slight resemblance to an adenoma sebaceum.

Dr. Fordyce said that he considered it a nævus and that the keratosis was a secondary condition.

Case for Diagnosis. Presented by Dr. MacKee.

This patient had been presented to the Society on several occasions by Dr. Fordyce but the members had never been able to agree upon a diagnosis. The patient was a married woman, a native of Russia, about thirty years of age, the mother of several healthy children. She was not of a healthy appearance. About six years ago she had been given "mixed treatment" by Dr. Whitehouse for a swelling in the neck, which promptly disappeared. Three years ago she developed a number of hard papules on the forearms and the hands, since which time there had been repeated similar attacks. The lesions could be palpated before they could be detected by vision, underwent slight central necrosis and left a minute scar. The complete evolution and involution of the lesions required from one to three months. Many of the papules on the fingers were the size of a dime, bluish in color and were associated with ulcerations. When presented to the Society the patient was recovering from an attack that had occurred three months previously. A histological examination was kindly made by Dr. Udo J. Wile who reported as follows:

Under the low power the essential changes were seen to be in the corium.

Epithelium. At the margin of the section, the epidermis seemed normal in appearance; toward the centre of the sections, however, in places it was reduced to three layers of cells; in others it was decidedly thickened. In the thickened portion, particularly, there were intercellular œdema and a moderate infiltration between the cells, of lymphocytic elements.

Corium. Corresponding to the changes in the epiderm, the papillæ and subpapillary layers were the seat of a dense infiltration with small round cells. The low-power picture of the remainder of the cutis suggested syphilis, *e. g.*, scattered cellular infiltrates, perivascular and perifollicular in situation. The high power revealed these infiltrations to be for the most part small round cells, however, with but a few plasma cells. The larger lymph spaces and blood vessels were distended throughout the section and there was swelling of the lining endothelium. With appropriate stains the connective tissue showed no change from the normal.

Vigorous anti-syphilitic treatment had no effect whatever. Tuberculin therapy had been tried over a period of nearly two years without benefit. Repeated Wassermann tests had been made, always with a negative result. The von Pirquet and Morrow cutaneous tuberculin tests were positive. While the lesions were rather superficial and necrosis and scarring not well marked the speaker considered the case one of tuberculide.

Dr. Fordyce thought it was probably a tuberculide.

Dr. Kingsbury said that he had seen the case several times before and on previous occasions it looked more like a tuberculide than when presented, though he never felt that it belonged to that group.

Dr. Schwartz said that he could not agree with the diagnosis of tuberculide, as it seemed to him to be more like an eczema.

Dr. Whitehouse said that the case interested him, for the patient had been under his care for a couple of years, ten years ago. She had then a right-sided cervical adenitis of large extent, without anything in the mouth or on the skin. At that time the present diagnostic tests were not known, and the question in his mind was then, whether it was a tuberculous adenitis or syphilitic. The woman was put on anti-syphilitic treatment as a therapeutic test, and gradually but steadily the tumor improved and entirely disappeared. Later she appeared again with this secondary eruption on the forearms. It seemed to him that the present lesions were suggestive of necrotic granuloma, especially those on the fingers. It was quite possible that the original trouble was a tuberculous process, for its disappearance under anti-syphilitic treatment really proved nothing.

Dr. Howard Fox agreed with Dr. Whitehouse that one or two of the lesions on the hands and fingers suggested necrotic granuloma. The continuous history seemed to be rather in favor of that than of an eczematous process.

Dermatitis Herpetiformis. Presented by Dr. Fordyce.

The patient was a boy eleven years old. During the past six weeks he had had recurring attacks of grouped vesicular and papular lesions which were located over the trunk and the posterior aspects of the arms and thighs. In addition to the grouped lesions there were large patches resembling eczema situated over the arms and forearms which were probably formed from the confluence of the grouped vesicles. The disease spontaneously disappeared in summer and returned in winter.

Dr. Whitehouse agreed with the diagnosis of dermatitis herpetiformis, with possibly a secondary lesion. He considered it peculiar that it should clear up in summer.

Dr. Jackson said that the case did not seem to him to be one of dermatitis herpetiformis. That disease did not usually get well in the summer to relapse in the winter. On the other hand that was the common history of an eczema. He would prefer to call it a papular eczema.

Dr. Trimble said that the large patches could be called eczema. He had first thought the case was one of dermatitis herpetiformis and was still rather inclined to agree with that diagnosis.

Drs. Schwartz, Howard Fox and Fordyce thought it was dermatitis herpetiformis.

Favus Treated with One Dose of the X-ray. Presented by Dr. MacKee.

The patient, a soldier, twenty-two years of age, was from Dr. Fordyce's clinic. There was, when the patient first came under observation, a palm-sized area on the anterior portion of the scalp which was practically devoid of hair. The skin was scaly and atrophic. The diagnosis of favus was confirmed by microscopical examination. The duration of the disease, which was contracted in this country, was three years. A single Sabouraud and Noiré dose of the X-ray had been administered three weeks before the patient was exhibited to the Society. When presented, there was complete baldness in the area treated. There had been no erythema and the speaker said that the hair would probably grow again in two or three weeks although there might be a delay of several months. The alopecia produced by the disease was, of course, permanent.

Dr. Trimble said that Dr. MacKee had stated that one exposure by this method usually caused an alopecia, but not a permanent one. The speaker wished to know if one exposure could be made to produce a permanent alopecia without injuring the skin.

Dr. MacKee replied that it was possible to produce a permanent alopecia with either the fractional or the single-dose method. This could be accomplished without the production of telangiectasis but not without entire freedom from atrophy. In reply to an inquiry from Dr. Fordyce as to whether or not one could produce a permanent alopecia without injury to the skin with any radiotherapeutic technique, the speaker said he thought not.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

George M. MacKee, M.D., New York.

Assisted by

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Faxton E. Gardner, M.D., New York.
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Ernest L. McEwen, M.D., Chicago.
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Harvey P. Towle, M.D., Boston.
Udo J. Wile, M.D., New York.
Fred Wise, M.D., New York.

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(*Continued from page 442.*)

Abstracted by Udo J. Wile, M.D.

The Belgian Leprosaria of the Middle Ages. Leon Dekeyser, p. 247.

Historical sketch of the incidence and segregation of leprous patients in the middle ages in Belgium.

The Blood Picture in Syphilis After Salvarsan. Paul Dorn, p. 263.

Dorn studied the blood of 40 cases of syphilis and two control cases before and after treatment with salvarsan. The salvarsan was administered both intramuscularly and intravenously. His results showed the following: A moderate hyperleucocytosis occurs after the injection of the drug; in the case of the intramuscular injection, this may last one, two, or three days; in the case of the intravenous injection this increase lasts but a few hours and occurs only in secondary syphilis. After the intravenous injection, a temporary hæmolysis occurs as shown by a fall in the hæmoglobin content, a fall in the number of red blood cells and by the presence of urobilin in the urine.

A Study of the Spirochæta Pallida in the Tissues of the Primary and Secondary Lesions of Syphilis. Tièche, p. 223.

The interesting facts set forth in this paper are the result of the histological study of chancres and various secondary syphilides, with particular reference to the spirochætal content of the lesion and the location of the former in the tissue. The sections were all stained by the Levaditi silver-impregnation method, and besides innumerable secondaries, the author studied the various types of the initial lesion. Similar to other investigators, Tièche found the organisms in large numbers in chancres with special predilection for the epithelium and

around the blood vessels of the papillæ. So densely do they sometimes occur in the epithelium that even with the low power they may be seen as a fine interlacing network. In the deeper lymph spaces, the occurrence of cords and strands made up of masses of spirochætæ lead the author to believe that they spread into the deeper portions of the skin in this way. With regard to the effect of treatment upon the occurrence of spirochætæ in chancres, Tièche found an entire absence of organisms in one case after ten days of mild mercurial treatment, whereas a piece of the same chancre before treatment was begun, contained the organisms in large numbers. In sections from the roseola, the author was unable to demonstrate spirochætæ and he inclines to the view that the roseola is an anaphylactic reaction to the chancre and thus not entirely like the later eruptions. In ten cases of condylomata the organisms were demonstrated in large numbers; in two such cases, however, in which general and local treatment had been employed, the search was negative. Large numbers of organisms were found in two cases of small papular, follicular syphilide, with exclusive localization in the follicular epithelium. In smaller numbers were the spirochætæ found in psoriasiform and in circinate papular lesions, and in lichenoid types. In pustular and encrusted lesions the organisms were present, but exceedingly few in number. As to whether recurrent forms of secondary lesions occur through a fresh invasion of the skin by way of the blood stream, or by the lighting up "in loco" of spirochætal infiltrations, the author is of the opinion, based upon his studies, that such recurrences can occur in either of these two ways.

The Significance of Heart-muscle Extract in the Present Status of the Wassermann Reaction. Carl Lange, p. 283.

The best results in the performance of the Wassermann reaction are obtained by using normal heart-muscle extract in doses of 0.2. Normal sera are invariably hæmolyzed by this dose. Such extracts may be regarded as practically constant, require no titration and may be kept for a long time. The employment of finer quantitative methods, such as titrating the patient's serum and the complement are unnecessary, at least for diagnostic purposes. These high extract doses give correct results notwithstanding the fact that they show alone a prevention of hæmolysis.

Concerning Tuberculosis of the Oral Cavity. M. Miyahara, p. 305.

Whereas tuberculous manifestations of the skin itself have always been a field of fruitful investigation, the subject of tuberculosis of the muco-cutaneous surfaces has received but little attention in dermatological writings. The author reports three cases in detail of tuberculous disease of the mouth in which the diagnosis was extremely difficult. In all three cases smears from the ulcers and tuberculin tests were negative, there was at the time no evidence of visceral tuberculosis, and the diagnosis was only made by histological examination and inoculation experiments. The writer discusses at length the differential diagnosis, and emphasizes the fact that in tuberculosis of the mucous membranes, as in the skin, many variant forms of extreme difficulty in diagnosis may occur. In such atypical forms the Moro and von Pirquet reactions may be absent and the demonstration of the bacillus only be possible by inoculating the excised material into animals.

Multiple Hæmorrhagic Sarcoma (Kaposi). Carl Sternberg, p. 331.

This article contains in detail the histological examination of sections of skin and of nodules of the small intestine from a case of the Kaposi type of sarcoma. Of particular interest, however, was the demonstration in the lesions from the

small intestine of smooth muscle fibres, which in the sections of the cutaneous lesions appeared to be spindle cells. Differential stains, however, demonstrated beyond a doubt that these spindle cells were all muscular cell elements, so that for his case at least the author feels justified in regarding the Kaposi type of sarcoma as a combination of lymph and hæmangiectasia, associated with hyperplasia of smooth muscle fibres. From a careful study of sections from other cases he believes that in all cases where the sarcoma has been described as being of the spindle-cell variety, the so-called spindle cells were probably proliferated smooth muscle fibres.

Experimental Syphilis in Animals and Its Significance for the Recognition and Treatment of Syphilis. Paul Mulzer, p. 341.

Mulzer gives in great detail the various stages in experimental syphilis, as carried out in laboratory animals. Whereas at first only simple chancres could be produced, at the present time even rabbits can be made to show constitutional evidences of the disease. By means of experimentally produced syphilis, Mulzer believes the many problems of immunity, immunization and the further study of the chemotherapy of the disease may gradually be solved.

Dermatitis Symmetrica Dysmenorrhœica. R. Matzenauer, and R. Polland, p. 383.

The authors describe herein an entirely new and highly interesting entity, which has been hitherto classified under the hysterical dermatoses, for the most part self inflicted. Five cases are described in great detail, the first having been the subject of Kreibich's study and observation, from the results of which he advanced the theory that many of the more or less rare cutaneous inflammatory conditions were due to a reflex sympathetic neurosis, caused by an increased irritability of the vasodilator centre. This was his so-called theory of angioneurotic inflammation. Matzenauer and Polland show definitely, in the cases studied by them, an entirely new nosology. The patients were all women suffering with dysmenorrhœa. The eruptive features of the disease were characterized by peculiar spontaneous, almost invaribly symmetrical lesions of great chronicity, which occurred at times as erythematous patches and wheals, but more often as a weeping dermatitis, occasionally developing into spontaneous necrosis. Coincident with the eruption there are usually vasomotor disturbances of the heart and circulatory system and not infrequently psychoses. The eruptive features and indeed the entire clinical picture was most carefully observed by the authors in the wards of the hospitals and most elaborate precautions were taken to rule out the possibility that the lesions were due to self-inflicted injuries. The belief is expressed by Matzenauer and Polland that in this clinical entity hitherto described among the hysterical dermatoses, particularly those self-inflicted, we are dealing with a systemic disease, most probably the result of toxic metabolic products, arising from derangement of the ovarian follicles. The article is profusely illustrated by photographs showing the character of the eruption and particularly the striking symmetry of the lesions.

Three Cases of Inflammatory Changes in the Umbilical Cord of Probable Non-syphilitic Origin. Torsten Rietz, p. 455.

Characteristic changes are described in the cord, placenta and membranes in syphilis. In this paper the writer describes identical changes which occurred in the membranes, placenta and cord, in which syphilis could practically be ruled out. In the first case syphilis occurred in both parents a considerable time after the birth of the child, which moreover remained entirely healthy and free

of symptoms. The changes found in the cord and membranes were those described for syphilis. Similar changes were found in the other two cases and syphilis here was ruled out as improbable by the entire absence of history, symptoms and the negative Wassermann reactions in the mothers.

Generalized Multiple Epitheliomata of the Skin. Weidenfeld, p. 467.

The case herein described is of considerable interest. The patient, a young woman, presented practically all over the body lesions, at first thought to be luetic, but later microscopically identified as epitheliomata. These were of three types: 1. Minute lentil-sized lesions to the number of about 60 or 70. 2. Lesions about the size of a cent to the number of four or five. 3. Nut to egg-sized tumors, of which type she had two. Of great interest in the possible ætiology of these tumors, was the fact that the patient during her early life had received large and continued doses of arsenic, and the employment of arsenical preparations, such as Fowler's solution and arsacetin, which caused a marked increase in the size of the growths. In further favor of the probable rôle of the arsenic as a causative factor, was the presence of atrophic and pigmented areas and a marked hyperkeratosis of the palms and soles. Many of the lesions were verrucous, others squamous and a few, particularly the larger ones, were ulcerated. Recurrences occurred in the cases of larger nodules following excision. The author discusses at great length the influence of light as a possible factor on chemically altered epithelium and compares the case clinically with xeroderma pigmentosum and with the changes produced by prolonged exposure to the X-ray.

The Coexistence of a Papulo-necrotic Tuberculide and Lupus Erythematosus. Robert Bernhardt, p. 531.

A clinical picture and histological examination of a case of a typical papulo-necrotic tuberculide in which the writer was able to observe the development of a simultaneous erythematous lupus. The tuberculin tests, both the von Pirquet and injection tests were positive and a cure was effected by injections of tuberculin in gradually increasing doses. The old tuberculin was used and the writer expressed the belief that in such cases tuberculin acts as a specific and unless otherwise contraindicated should always be employed.

(*To be continued*).

Dermatologische Wochenschrift.

(June 22, 1912, liv, No. 25).

Abstracted by Fred Wise, M.D.

The Cutaneous Reaction in Gonorrhœics. Sakaguchi and Watabiki, p. 717.

The usual provocative tests for the presence of gonorrhœa in patients with little or no discharge and in whom the acute symptoms have long since subsided, are subject to many errors, so that a reliable and simple method of detecting the presence of the disease is greatly to be desired. C. Bruck employed a gonotoxine vaccination test, analogous to von Pirquet's tuberculin test, with fairly good results. The authors experimented with a toxine similar to the typhus toxine of Chantemesse, prepared in the following way: 1. Gonococci removed from the patient were allowed to grow in blood-serum agar for 24 hours, at 37° C. 2. The colonies were smeared on watch crystals and allowed to dry. The dried

colonies adhered to the glass in the form of a powder. 3. The sediment was removed and mixed with distilled water in a mortar, thereby extracting the toxine. 4. The mixture was shaken for 48 hours, then, 5, exposed to a temperature of 60° C., for one hour. 6. It was then centrifugalized and the supernatant fluid was removed. 7. Ten volumes of absolute alcohol were added, causing precipitation and separation of the toxine. 8. The sediment was dehydrated and the remaining powder made up into a two per cent. solution. This was used in twenty patients, into whose skin the material was vaccinated. Briefly, the results were unreliable, only four of these twenty cases showing a cutaneous reaction. Several modifications in the manufacture of the toxine were tried, with similar poor results. Only those cases which presented an epididymitis or a generalized gonorrhœal infection and in whom antibodies were present, reacted positively to this cutaneous test. In such cases as these, the test is of little use, for the diagnosis may be arrived at from the clinical symptoms alone.

The Origin of Leprosy. C. Engelbreth (*Conclusion*), p. 723.

In furtherance of his views regarding the causal connection between leprosy and the presence of goats in leprous countries, the author mentions a number of factors which, in his opinion, strengthen such a theory. Kedrowsky experimented with guinea pigs, rabbits, rats and mice and found that leprous tissue inoculated into them produced lesions indistinguishable from those of tuberculosis. Engelbreth believes in the existence of an internal disease in the goat, which, when inoculated into the human being, results in leprosy, and that this goat-disease bears a close resemblance to tuberculosis. Hertha examined a number of goats at autopsy and found that they may be afflicted with two different types of tuberculosis; one, the ordinary bovine type, the other, a type producing pathological changes not found in tuberculous cattle. The latter proved to be free of tubercle bacilli, but contained numerous other microörganisms, which, according to the author, are the cause of the internal leprosy of the goat; this infection, transmitted to man, resulting in human leprosy. Engelbreth believes that the disease is transmitted to man by the excrements and the milk of infected goats and that the organisms gain entrance into the human body either through the nose or through the gastro-intestinal tract. To prevent the progress of the disease in man, the goats of all leprous countries should be subjected to the tuberculin test (which is positive in goat-leprosy), and those showing a positive reaction must be destroyed.

(*Ibidem,* June 29, 1912, liv, No. 26).

The entire issue is devoted to the index of Volume 54 (1912, No. 1 to 26).

(*Ibidem,* July 6, 1912, lv, No. 27).

Ulcus Rotundum Ventriculi in a Syphilitic; Death Following the Second Salvarsan Injection. I. F. Selenew, p. 843.

The patient, a man of 50, received a normal dose of salvarsan for his tertiary lues, showing no unpleasant reaction to the drug. Twelve days later, he was given a second intravenous infusion, followed by a severe reaction; *i. e.*, fever, headache, anorexia, vomiting, etc. Seven days later, the patient died. Autopsy revealed the presence of several perforated ulcers of the pylorus, a purulent peritonitis, apoplexy of the intestinal tract, acute and chronic miliary tuberculosis of the lungs, fatty degeneration of the liver and sepsis. The interesting circumstance in this case is the fact that the patient did not exhibit the clinical symptoms of his gastric ulcers or of his tuberculosis; the symptoms of perfora-

tion of the ulcers were undoubtedly masked by the reaction caused by the second dose of salvarsan.

A Case of Parakeratosis Variegata (Unna)—Exanthema Psoriasiforme Lichenoides (Jadassohn)—Parapsoriasis en Gouttes (Brocq). Menahem Hodara, p. 848.

With his usual erudition, exactness and attention to details, the author describes a patient with the above-named dermatosis. The patient was a man of 38, who had been afflicted with the disease for seven years. Three types of the eruption have been described: 1. Parakeratosis variegata of Unna. 2. Exanthema psoriasiforme of Jadassohn. 3. Erythrodermies pityriasiques en plaques disséminées of Brocq. In 1902 Brocq combined these three under the heading "parapsoriasis," with three sub-titles, namely, parapsoriasis en gouttes, en plaques and lichenoides. He identified Unna's parakeratosis variegata with his parapsoriasis lichenoides, Jadassohn's exanthema psoriasiforme lichenoides with parapsoriasis en gouttes and his erythrodermies pityriasiques en plaques disséminées with parapsoriasis en plaques. The author's case belongs to the parapsoriasis en gouttes type of exanthem. A detailed description of the eruption follows; treatment of every kind has been without avail. One of the physicians under whose care the patient had placed himself, prescribed a protracted mercury treatment, thinking the case to be one of lues, but the disease remained unaltered throughout. Temporary improvement followed the use of arsenic injections internally and the external application of pyrogallol and of calcium sulfuricum. The rest of the article is devoted to a detailed resumé of the cases described in the literature to date. (*To be continued*).

Jahrbuch für Kinderheilkunde und physische Erziehung.

(April, 1912, xxv, No. 4).

Abstracted by Harvey P. Towle, M.D.

Observations Upon the von Pirquet Tuberculin Reaction in the Acute Infectious Diseases of Children. W. J. Moltschanoff, p. 435.

Von Pirquet found that it could be proved by systematic observation that the tuberculin reaction disappeared regularly during the exanthem of measles for six or seven days and returned with the disappearance of the eruption. Further observation showed that other infectious diseases exerted a similar depressing effect upon the cutaneous reaction; for example, croupous pneumonia, typhoid fever, scarlet fever, but never articular rheumatism. In diphtheria it has never been met with, nor in angina follicularis. In each case the reaction returns during the convalescence. Von Pirquet does not, however, accept the evidence as to this behavior of the reaction as proved.

Moltschanoff undertook a systematic investigation of the tuberculin reaction in his children's clinic during the years 1909 to 1911. The majority of his cases were inoculated several times. "Since our purpose was to study the behavior of the reaction in the different periods of disease in one and the same patient, we employed, without exception, the 25 per cent. solution of Alt-tuberculin recommended by von Pirquet himself and it was only in certain cases, giving a negative result, that we employed either the 50 per cent. solution or the undiluted tuberculin."

The reaction was studied in 150 patients divided as follows: Measles, 42; diphtheria, 50; scarlet fever, 50; false croup, 2; parotitis epidemica, 2; varicella,

3; angina diplococcica, 1. The results were as follows: 22 cases of measles were susceptible to the tuberculin. The reaction of the acute stage is unknown in 5 cases since it was used only in the stage of convalescence. In the other 17, however, which were in the acute stages of measles, the reaction remained completely unaffected. There was not a single positive reaction obtained in the active stage of the exanthem. Such a loss of susceptibility to tuberculin in measles occurs only during the eruptive period. It was found, moreover, that there was no connection between the loss of susceptibility and either the high temperature or the complications of the disease.

In some cases in which the eruption was delayed, the reaction on the fourth day of the disease was positive in spite of the high temperature and other symptoms. With the appearance of the eruption the reaction became negative, and changed again to positive when the eruption disappeared. In only one case was the reappearance of the reaction delayed. In this patient it was still negative eleven days after the exanthem had disappeared. Von Pirquet explains this on the ground of a reduction in the antibodies present in the organism.

Twenty-three cases of scarlet fever gave a positive reaction in the convalescent period. In 3 cases, no test was made during the active stage. Of the remaining 20, 17 were negative while the exanthem was present and in 3 the susceptibility was reduced.

The behavior of the reaction in diphtheria was somewhat different. Of 16 inoculated in the acute stage of the disease, only 2 showed complete insusceptibility to the tuberculin. In 14 the susceptibility was quite unaffected and in 6 it was somewhat weakened. On this basis, one can speak of a weakening influence of diphtheria in connection with the reaction in only 8 out of 16 cases.

In 2 cases of scarlet fever and 2 of diphtheria there was recognized a distinct depressing influence upon the susceptibility by serum disease.

No conclusion could be drawn in false croup and parotitis epidemica. There were cases of varicella and angina which showed neither a disappearance nor a lowering of the susceptibility to the cutaneous reaction of tuberculin.

Moltschanoff concludes from these observations, that 100 per cent. of the cases of measles suffer total loss of susceptibility to the cutaneous reaction of tuberculin. In scarlet fever, if the eruption is present, 85% display complete loss of susceptibility, and 15% a diminution. In diphtheria a negative reaction was found in only 12½% and a diminished reaction in 50%. Serum disease hinders the reaction. Moltschanoff then proceeds to discuss the various hypotheses in explanation of this behavior of the reaction. He concludes his article as follows:

"One must at present admit that the cutaneous tuberculin reactions show marked variations, dependent upon the reactive conditions in the skin, such as are seen in acute infectious diseases and other pathological conditions of the organism. Its value as a diagnostic measure is only relative. Also the prognosis of the course of a tuberculous process in the organism which depends upon the character of the cutaneous reaction must be made with caution."

(*Ibidem,* May, 1912, xxv, No. 5).

The Pathology of the "Negative" Nervous System in Childhood. Viereck, p. 627.

At a special meeting of the Berlin Society of International Medicine and Children's Diseases, January 22, 1912, Viereck spoke upon this subject. He first rapidly reviewed the work of the von Noorden Clinic based upon the theory that the opposing actions of the sympathetic and the vagus are causes of different forms and manifestations of disease characterized by symptoms of "vagotonie" and upon the doctrine of the internal secretions. It was demonstrated, in theory,

that there did occur frequent connections between the vagus and the sympathetic, in the above sense, with pathological disturbances in childhood, such as, for example, "lymphatism," post-diphtheritic paralysis, asthma, spasm of the pylorus, urticaria, serum-sickness, etc.

Viereck has been able to furnish experimental proof of these relationships. Among many other details, he states that it was proved that the symptoms of "vagus-tone" were increased at the climax of the spasm; in the exudative diatheses, the manifestations were "sympathetic-tonie;" that in a number of more or less pronounced functional nervous disturbances the symptoms were "vagotonie"; and, finally, the vagus symptom, first described by Ascher, demonstrated in two children with post-diphtheritic paralysis.

The Rumpel-Leedes Phenomenon in Scarlet Fever. Beck, p. 634.

Beck has tested the phenomenon in a large number of children. In agreement with the experiences of other authors, he found that it gave positive results, not only in diseases of the most widely different nature, but also in children with no disease. On the other hand, in scarlet fever the phenomenon of stasis was always present and particularly intense. In the cases which he reported, Beck had found the test of great service in differential diagnosis. His observations convinced him that a negative result of the stasis-test was an almost infallible argument against scarlet fever, but that a positive test stood upon the same footing as the other symptoms.

Archiv für Kinderheilkunde.

(1912, lviii, Nos. 1-3).

Abstracted by Harvey P. Towle, M.D.

Diseases of the Glands in Children. D. Sskolow, p. 103.

This article perhaps possesses for the dermatologist only an indirect interest. Nevertheless, because of its exhaustiveness, it is well worth reading. Every point touched upon is illustrated so profusely by the writings of other observers that the paper takes on the character of a critical review. In it, the author does not confine himself to the consideration of any particular group, but discusses the whole glandular system, both superficial and deep. A very complete exposition is given of the structure of the glands from infancy to age with the changes which they undergo as the organism develops. Closely associated with this anatomical study follows a discussion of the various views regarding the function of the glands; whether they act merely as filters to protect the organism; whether they are able to destroy, or at least weaken, the invading agents; whether they harbor invading microbes in a "latent" condition and by so doing become themselves possible dangers to the organism; and whether they possess blood-making functions.

Of no little importance to the dermatologist is the long discussion upon the physical effect of foreign substances, both bacterial and non-bacterial, upon the glands which is considered both from a general point of view and also from the special point of view of individual infectious agents and toxic substances. There is also much interest in the account of the anatomical distribution of the glandular system and of the regions drained by the individual glands, a subject not often carefully set forth as in this paper. In another section, the effects of extirpation of the glands are taken up in order to show the dependence of the organism upon the glandular system, not only for protection from invasion but

for life itself. Upon this foundation, Sskolow then builds his final discussion of the various glandular diseases, especially of glandular fever.

Monatschrift für Kinderheilkunde.

(1912, xi, No. 1).

Abstracted by Harvey P. Towle, M.D.

The Dietetics of Scrofula. E. Moro, p. 21.

Since Moro announced that, in his opinion, scrofula was merely an expression of a tuberculous infection acting upon an underlying lymphatic exudative diathesis, the theory has received considerable support from other authors. Further study has demonstrated as a fact that, under certain conditions the glands in children can produce a form of disease which corresponds in many ways to the exudative diathesis of Czerny. Moro is convinced, therefore, that scrofula is a combination of an exudative diathesis with tuberculosis which, in the scrofula organism, exhibits the closest relationship between the two affections. In his opinion, it is the exudative diathesis which is the source of the great susceptibility existing in scrofulous children. The cause of the pronounced tendency to reactive inflammations and of the increased sensitiveness of the lymphatic apparatus in such "exudative" children lies in the persistent irritation of tuberculous disease which tends to bring forth continually new manifestations of the diathesis. Therein Moro finds the basis for the specific character of the scrofulous inflammatory symptoms. This last hypothesis was easily proved experimentally by the injection of certain substances which influenced the symptoms of the tuberculous processes, but which had no effect upon the exudative diathesis. On the other hand, it was difficult to prove the connection of the exudative diathesis. However, Czerny has obtained recently brilliant results from the treatment of scrofula by means of a diet which is directed exclusively against the exudative diathesis, but which has no effect upon tuberculosis.

Moro, in order to demonstrate to his students the influence of nourishment upon scrofulous disease, repeated the experiment upon a child, who, up to that time, had been free from gross manifestations. For the purpose of the experiment the child was put upon an exclusive, but abundant, diet of milk and eggs in the prescribed manner. Now one symptom, now another, could be produced at will.

Moro then relates the cases of several children in whom, under an exclusive diet of milk and eggs, the exudative manifestations disappeared completely. Moro has become convinced of the efficacy of this dietary treatment, but states that one condition is necessary for good results: namely, that the children to whom it is given should gain in weight quickly and constantly; by which he means that they should "fatten up" under the diet. As this use of a "fattening diet" is opposed to the ordinary views upon feeding, Moro explains the reasons for its selection. Everyone is familiar, he says, with that affection which appears in the earliest months of life, manifesting itself by a loss of appetite, constipation and strophulus. There is the history in such cases almost without exception, of overfeeding with milk. When the milk is taken from the diet the therapeutic result is excellent. One is therefore justified in regarding this disease as belonging to the group of those caused by improper feeding. In fact the exudative manifestations are found to result most frequently from such mistaken overfeeding.

Experience teaches that, in scrofulous eczema, a clever local treatment is powerfully reinforced by dietetic measures. One finds almost constantly that an increase in weight during the course of a tuberculin treatment exercises a bad

effect upon the arrest of the exudative process and that, on the contrary, a loss of weight has favorable influence. Therefore, the assumption is justified that the exudative manifestations have here a connection with the nourishment. The fact that certain inflammations of the skin, of real infectious origin, like intertrigo, and follicular eczema of the face, often rise during the breast feeding period, but disappear promptly upon a diet of richer human milk, does not contradict the fact that a connection exists between the diet and the exudative diathesis. In the use of all dietaries there must be considered the manifold factors of different sorts which play an important part in producing the symptoms of an exudative diathesis. This is especially true of infections and of antigen diseases.

Moro cites an example of the importance of such contributing factors, their influence upon the action of vaccination, which is not followed by eczema and scrofula unless the children vaccinated are "lymphatic-excitative." The crusted eczema of the head and face which occurs in congenital syphilis is an example of the manifestation of an exudative diathesis superimposed upon an infectious disease process. Externally, these cases resemble the similar affections produced by alimentary disturbances. Nevertheless, scrofulo-syphilis stands justified in the same manner as scrofulo-tuberculosis. Such observations help one to understand more clearly the meaning of the exudative process in scrofula. It has been demonstrated through experiments with tuberculin that the exudative manifestations in scrofula are not of an essentially alimentary nature, but are specific. It has also been shown that when the persistent irritation of the tuberculous process is removed the diathesis vanishes.

A second method of removing this harmful influence of the tuberculous disease is by means of treatment by light and air. The third method is the "fattening cure." The milk-egg diet was chosen by Moro for purely experimental reasons. He is by no means convinced that it is the only diet. Nevertheless it has certain advantages. It is relatively poor in carbo-hydrates, but contains a considerable proportion of albumin and fat. Moro would restrict this egg-milk treatment, however, to such cases as show the existence of an intimate relationship between tuberculosis and the diathesis, but scrofula, if present, must be an expression of an active tuberculosis, otherwise no such relationship can exist.

Zeitschrift für Kinderheilkunde.

(1912, iv, No. 2).

Abstracted by Harvey P. Towle, M.D.

Disturbances of the Functions of the Blood and Lymph Systems in the Skin as the Result of Scarlet Fever; Relationship of Scarlatinal Nephritis and Œdema of the Skin. Oscar Kirsch, p. 97.

Kirsch, in his long article, gives an exhaustive discussion of the functions of the skin, the various stages of the scarlatinal manifestations, the anatomical relationship of the blood vessels to the disease, their reactions, the connection of the nervous system with the skin eruption and finally, the angioneuroses.

His general conclusions are: 1. There is a high-grade inflammatory dilatation of the arterial capillaries of the skin (probably also of the venous and lymph systems) at the height of the scarlatinal eruptions, which shows that the power of the capillaries to contract is greatly reduced. 2. The fading of the eruption which appears in the course of convalescence is an expression of the return of this power of contraction to the arterial capillaries (probably also to the venous

and lymph vessels). At the close of this period of fading there occurs an excessive narrowing of certain vessels. 3. This excessive contraction of the arterial capillaries indicates that the pallor of the convalescent period is not only a light grade of anæmia, but is also of a pseudo-anæmic nature and is dependent upon a contraction of the arterial network in the skin. 4. The meshes in the vascular network, which are widened in the height of the exanthem and narrowed as the result of the inflammation, now relax and stretch in this period of paleness. The tension causes a narrowing of the vessels until, as a result, there appear various-sized livid spots (pseudo-anæmia). The contraction of the veins in the skin makes them unusually conspicuous and leads, in certain cases, to the appearance of a peripheral venous cyanosis. The contracted veins are visible in certain places even to the origin of the venous precapillaries and the capillaries. 5. This contraction of the arterial skin capillaries, dependent upon the accompanying disappearance of the exanthem, oftentimes provokes the manifestations of "post-eruptional hæmorrhages," whose origin agrees with that of the so-called purpura. Presumably stasis occurs in the venous capillaries simultaneously with the contraction of the arterial capillaries. 6. The skin, convalescent from scarlet fever, shows vasomotor disturbances (tendency to erythema). 7. The scarlatinal nephritis of the higher grade comes from the interference with the blood vessels in the skin, the œdema from interference with the lymph system (which is caused by a spastic narrowing of the lymph capillaries). 8. The weakening of the power of contraction in the arteries, veins and lymph capillaries is probably due to an anatomical injury of the muscles of the vessels, analogous to affections of the muscular capillary elements. 9. The eruptions of other infections, for example, the rash of variola and likewise the universal erythema which follows the metal intoxications, often produce nephritis and œdema of the skin associated with disturbances of the lymph vessels, analogous to those in scarlet fever. 10. Since the injury to the skin capillaries underlies the secondary angioneurotic conditions of the skin during the convalescent period of scarlet fever, the assumption attains probability that many diseases of apparently neurotic origin, such as angioneuroses, are, in reality, manifold complexes of vasomotor symptoms, symptoms of neurosis, arteriosclerosis, etc.; in reality, "angiogen."

Archives de médecine des enfants.

(June, 1912, xv, No. 6).

Abstracted by Harvey P. Towle, M.D.

The Diatheses of Infancy. Georges Schreiber, p. 433.

It was not until 1900 that the first attempt was made to detect the signs of a diathesis in infantile life. In that year, Comby published a series of articles to prove that the germ of arthritism existed in the infant. In Germany, the doctrine of arthritism was not accepted until Czerny presented it under the name of exudative diathesis. Since that time progress has been hampered by the number of diathetic states described under the most diverse titles, although all are no more than variants of the infantile arthritism of Comby.

Schreiber defines "diathesis" as follows: "Under the influence of external causes (infections or intoxications) the exchanges between the humors and the cells may undergo variations arising from disturbances of nutrition. Such disturbances may be temporary and disappear, or they may be permanent, in which case they can be transmitted by heredity. Certain infants are thus born with a 'vice of nutrition' which will manifest itself in them through a specific (individual)

reaction to various pathologic agents and will also render them vulnerable to conditions which do not affect the normal organism. They present a *permanent disturbance* of the processes *of nutrition which prepare, excite and result in diseases differing as to symptomatic forms, as to anatomical seat, as to pathological process.* This permanent disturbance, so defined by Bouchard, is, in substance, *a special morbid predisposition,* for which the title 'diathesis' is reserved and of which two types are recognized: the scrofulous or lymphatic diathesis and the arthritic diathesis."

Under the heading of lymphatism, Schreiber states that while some writers consider scrofula to be lymphatism of unusually pronounced intensity and while others look upon it as an attenuated tuberculosis, it may be possible to convert both groups of partisans to a third view, *i.e.,* that "scrofula results from the penetration from without of a germ, the bacillus of Koch, upon a soil predisposed by the lymphatic diathesis." Schreiber expresses the idea in this formula:

$$\frac{\text{Tuberculosis}}{\text{Lymphatism}} = \text{attenuated tuberculosis or scrofula.}$$

Born then of parents enfeebled in health by one or another of a number of affections, the offspring inherits the lymphatic diathesis. Such lymphatic subjects present so peculiar an aspect as to reveal the condition from the time of their birth.

"Upon this soil, tuberculosis may develop, often giving birth to the picture of scrofula with its adenopathies and its torpidly evoluting gummata; but the *lymphatic infant does not present a peculiar susceptibility solely to the bacillus of Koch: all microbes, pyogenic or ordinary saprophytes of the body, share the predilection."* Because of this broad susceptibility to infection there arise divers manifestations in the mucous membranes and in the skin. The mucous membranes are prone to develop catarrhal and hypertrophic inflammatory processes, too numerous to be detailed here. The skin is predisposed to such affections as impetigo, eczema, intertrigo, pityriasis and the like, whose lesions are characteristically recurrent and rebellious to treatment. The chief symptoms which distinguish the disturbances of the mucous membranes and the skin in lymphatic subjects are the torpid evolution and the involution of the disease process.

The second variety of diathesis, arthritism, is inherited and manifests itself in earliest infancy. Its symptoms resemble those of lymphatism sufficiently to occasionally render the easy identification of either impossible. In general, however, it may be said that the reactions in the arthritic infant differ from those in the normal. One of the most striking facts is that the victims of arthritism, usually, but not invariably, present a particularly well-fed appearance. They are, however, especially intolerant of the slightest hyper-alimentation. Constipation is common among them and they develop cutaneous disturbances with ease, of which eczema and impetigo are the most common. The diathesis also lowers the tone of the mucous membrane, as well as the tone of the skin, predisposing them to a variety of troubles. In older children, arthritism occurs in two main types; one, "fat, 'polysarcique,' the other, gaunt, 'lymphatico-nerveux'."

Schreiber maintains that a summing up of the troubles arising from the "exudative diathesis" of Czerny and of those attributed by Comby to infantile arthritism will prove that the two states are identical and correspond at every point.

Rosenstern, Dr. Finkelstein's assistant, has recently brought out a new point in connection with infantile arthritism. "Having practised the examination of the blood in infants suffering from cutaneous or mucous membrane troubles of the arthritic series (eczema, prurigo, asthma, various catarrhs, etc.), he was able to demonstrate an eosinophilia sometimes reaching 20% and he therefore concludes that this eosinophilia is a symptom common to all these diathetic manifestations."

The pathogenesis of arthritism is unknown, which fact, Schreiber argues, by no means invalidates the value of the clinical evidence. Among the theories advanced in explanation of the pathogenesis may be mentioned the "humoral theory" of Bouchard, the "nerve theory" of Lanceraux, the "infectious theory" and the "embryonic theory." In any event, Schreiber continues; "One cannot fail to be impressed by the links which join lymphatism and arthritism together." Both present cutaneous, mucous and lymphoid affections in great number and which are absolutely alike. Gendre and Martinet state that the only difference between the one and the other is that the resolution of the banal manifestations in arthritic patients is always complete but in the scrofulous is imperfect. Although the scrofulous may be cured "they will veer in later life toward arthritism." Schreiber would not make the terms scrofula and lymphatism synonymous, but would reserve the designation, "scrofula," for a tuberculous process developing upon the soil of lymphatism:

$$\text{Scrofula} = \frac{\text{Tuberculosis}}{\text{Lymphatism}}.$$

Though the scrofula may be cured, the lymphatism remains.

Arthritism being hereditary, treatment ought to include prevention of transmission through the marriage of subjects attacked by the same diathesis. When present in the infant, the indications are, on the one hand, to remove the manifold conditions to which it is exposed and on the other hand, to guard it against the future. To accomplish these ends, Schreiber recommends general measures, such as hygiene, fresh air and, in arthritism, sea air especially; a vegetarian diet; perhaps the substitution of artificial feeding for breast feeding with a reduction of the amount of milk; change of air; thermal baths; and tonics. The administration of the iodides is, however, strictly contraindicated.

Notes Concerning the Mongolian or Sacred Blue Spot. A. Bruch, p. 446.

According to the writers cited by Bruch the Mongolian spot occurs among the yellow races with great frequency, the incidence of its occurrence in some races, notably the Japanese and Chinese, being variously estimated at from 80 to as high as 97 to 98%. The mark is, however, occasionally present in children of white races, some estimates saying as often as in 1 in 300. When present, it is generally considered an indication of degeneracy. Bruch states that the mark has been found in monkeys.

"The ætiology of this pseudo-affection, which is not at all pathological, is quite obscure. Shall we invoke atavism or a crossing of our ancestors with the Mongolian races?" Bruch suggests that as the spot occurs so frequently in monkeys and persists throughout their lives, the fact may justify the theory that we are descended from monkeys.

Regarding the histology of the spot, Bruch quotes Drs. Herman and Comby to the effect that it is composed of large fusiform cells filled with melanotic granules which, because of the depth in the corium at which they lie, assume a bluish tinge. To illustrate the effect of the thick, over-lying layer of skin upon color he calls attention to the bluish tinge which the grains of black Chinese ink assume when tattooed deep into the derma.

Many Tunisian infants bear the Mongol mark. Some have but one, others large patches covering considerable surface. As shown by the nine sketches which accompany the text, the region just at the beginning of the fold between the buttocks is always involved whether or not other regions are affected. In some of the cases sketched there are spots upon the buttocks, in others, spots over the lumbar region and in one is shown a broad band which runs along the spine and the adjacent parts from the sacrum to the level of the spines of the scapulæ. There it divides into two narrower bands and extends over the shoulders.

(*Ibidem*, July, 1912, xv, No. 7).

The Local and General Reaction of Tuberculin in the Child. M. Péhu, p. 481.

In this long article of nearly fifty pages, Dr. Péhu has given a complete résumé of tuberculin. It is now a matter of history that, after its introduction on the fourth of August in 1890, Koch's tuberculin was at first received with acclaim, but soon fell into comparative disuse, at least as a therapeutic measure. Schreiber, however, recognized almost immediately, that it contained diagnostic possibilities. He began to experiment in this direction as early as 1890 and demonstrated that it was possible to give considerable doses to children without causing serious damage.

Loewinstein was the first to combat the prevailing idea that, in order to obtain a reaction, it was necessary, if the first test failed, to gradually increase each succeeding dose of tuberculin. He showed that, on the contrary, it was not necessary to give more than the original dose, because tuberculin was able to sensitize the organism.

Von Pirquet announced his method on May 8, 1907. His theory of the reaction was based upon his observation that a papule appeared after a revaccination more rapidly than after a primary inoculation. Von Pirquet explained this phenomenon on the ground of the existence of antibodies in the organism which were the product of the previous inoculation. In short, according to von Pirquet's theory, a tuberculous subject should be more sensitive to tuberculin than a normal subject. This increased sensitiveness von Pirquet called allergy.

Among the methods of using tuberculin for diagnostic purposes may be mentioned the conjunctival test of Wolff-Eisner and Calmette and the method introduced by Mantoux in 1908 of intradermal injection.

Péhu, "believing that the comprehension of the reaction is dependent in large measure upon the knowledge of the agent used to produce it," devotes many pages to a description of the nature of the varieties of tuberculin in common use. They are comparatively numerous and the methods by which they are produced differ considerably. Péhu says that there is still dispute as to whether the tuberculins always contain the bodies or débris of the bacilli. It is also stated, in effect, that the same preparations, if made at different times, may show differences in the degrees of their activity. It is impossible, he says, to standardize the various tuberculin products as we possess no accurate method of measuring their activity.

In regard to the dosage, Péhu reminds the reader that the susceptibility to tuberculin increases with the age of the subject. The newly-born fail to react at all, while the older the child the more prompt the reaction. In practice, he recommends injections with the Pravatz syringe of from 1/20 to 1/10 of a milligram of tuberculin diluted with chlorated-soda water. The injection may be repeated at intervals of 3 or 4 days, always in the same dose and not more than three times. The most characteristic feature of the positive reaction is the temperature curve. According to Péhu, the temperature should begin to rise at about the sixth hour after injection. It should reach its height (101° to 102° F.) in between 13 and 18 hours and then fall rapidly. Therefore, the best time for observation is within the first 24 hours.

As general contraindications to the injection of tuberculin he gives: recent hæmoptysis, acute nephritis, albuminuria and renal tuberculosis, epilepsy, diabetes and febrile conditions.

For the cuti-reaction (of von Pirquet) the preparations used vary with the different men. Péhu recommends that three scarifications should be made in the skin, deep enough to appear pinkish but not to draw blood and widely enough separated from one another to avoid accidental contamination. The central line

is then used for the test, the flanking lines for controls. The controls should show only a passing hyperæmia. In the test line, however, the reaction, when positive, should begin to manifest itself in from 6 to 15 hours, but is best observed in from 18 to 24 hours. A typical reaction should produce an erythema surrounding a central papule. In the intense reactions, however, there may be a vesicle replacing the papule. The whole is often surrounded by a lilac or rose-colored halo. The whole extent of the reaction-area should be characteristically indurated. The maximum development in extent and elevation is attained in from 2 to 24 hours, after which the manifestations begin to recede, until at the end of a week there may be nothing visible but slight pigmentation and desquamation. In children, however, the evolution is so much more rapid that at the end of the third day the symptoms are no longer of value.

The ophthalmic or, as it is often called, the conjunctival reaction, is provoked by dropping tuberculin into the inner corner of the eye and manifests itself in about 16 hours, reaching its maximum intensity in from 20 to 24 hours. A positive result is indicated by a conjunctivitis which is most pronounced near the caruncle. The signs disappear in about four days. It has been observed that patients, clinically sound, who do not react to the first instillation frequently give a positive result to the second test (according to Levy, 70% of the cases) and that, with each repetition of the instillation, the reaction increases in intensity. It would appear, therefore, that a repetition of the conjunctival test is inadvisable because it is not without danger and also because it is not conclusive, as the reaction to the second dose may be due to its stimulation of a tissue sensitized not by the products of disease but by the first instillation. It follows that, before making the conjunctival test, the physician should learn whether it has ever been performed before.

Péhu then notes the fact that a second inoculation of tuberculin, even when made at a distance, may cause a relighting of the reaction at the site of the previous test, whose symptoms may have disappeared entirely. This "sympathetic" reaction in an old and completely involuted site is most likely to occur in the eye. Although it is reported that accidents have followed the use of the conjunctival test, Wolff-Eisner asserts that, if only certain precautions are taken, the method is perfectly harmless. Chief among these precautions is, he believes, the avoidance of a second instillation.

In the Mantoux-Epstein method, the chosen tuberculin preparation is injected beneath the skin of the deltoid region, or of the postero-external surface of the forearm. If properly made, the injection should be followed by the appearance of a little ball of œdema under the skin. The cutaneous manifestations of a positive reaction to the Mantoux test, are, in a sense, the same as those produced by the von Pirquet method. This method of intra-dermal injection is considered one of the most sensitive of all the various methods.

A fifth method is that of Moro and Doganoff which consists of rubbing into the skin a pomade of lanoline containing 50% tuberculin. Within 24 to 48 hours the reaction is manifested by an eruption of from 2 to 10 nodular papules which strikingly resemble those of lichen scrofulosorum.

There are many other methods which, however, are but little used.

It is stated by Péhu that the histological changes induced by the von Pirquet test chiefly concern the epidermal layer. In the deep cutis, directly below the area of reaction, there are found perivascular collections of small round cells which are most numerous about the vessels of the hair follicles and the sweat and sebaceous glands.

Péhu discusses the arguments for and against the specificity of the tuberculin reaction at some length. Its opponents, he says, argue that tuberculin frequently causes a positive reaction in patients who are clinically free from all disease.

They also assert that the rise in temperature, which the advocates of tuberculin declare to be a distinguishing mark of the positive tuberculin reaction, is by no means characteristic of the action of tuberculin as it frequently is found to follow the injection of a variety of chemical substances.

The results of experiments seem to sustain the contention that the tuberculin reaction is not specific for tuberculosis. For example, Entz tested 110 individuals of whom some were clinically tuberculous, while others were free from the disease. In addition to the tuberculin injections, inoculations were also made, in the same cases, with the toxines of the diphtheria, typhoid, paratyphoid, pyocyaneus and cholera bacilli. It was found that non-tuberculous and tuberculous patients yielded positive reactions with about equal frequency, about 75%. Nor could the clinical manifestations of the reaction to the different substances inoculated be distinguished from one another. The only slight difference seemed to be that the tuberculin papule was more accentuated than the bacillary. Similar results were obtained in a second series comprising patients varying in age from several months to fourteen years. "The only shading to be noticed was that, in general, the older children reacted more and better than the infants." Tezner, using the toxine of the colon bacillus (because the colon can produce anaphylaxis) found the results from its inoculation agreed exactly with those from tuberculin. When the reaction to the colon toxine was negative, the tuberculin reaction was likewise negative.

The advocates of the specificity of the tuberculin reaction point to the results of its employment in comparative pathology. They cite the effects of serial reinoculations, the lighting up of old foci upon the repetition of the injection. They consider significant the fact that the statistics of successful reactions to the cutaneous inoculations correspond exactly to the autopsy records. Finally, it is argued that the positive reaction is proved to be specific by the fact that it is absent in the early months of life, which is also the very time when tuberculosis is least frequent and by the fact that thenceforth the number of positive reactions increases as the age of the patient increases, and thus corresponds closely to the demonstrated age-incidence of tuberculosis.

It is difficult to compare the clinical value of the different methods because the statistics are not obtained under the same conditions. Péhu would rank the different test methods, in the order of their sensitiveness, as follows: the method of Mantoux, the "Strichreaction" of Epstein and Hamburger, the cuti-reaction of von Pirquet, the subcutaneous injection and finally the conjunctival test of Wolff-Eisner and Calmette. Considered from the practical point of ease and simplicity of technique, the ranking would be somewhat different. For example, the conjunctival test is simpler and quicker than the subcutaneous and, therefore, would precede the latter but, from the point of view of safety, the conjunctival method would rank last. It is not easy to decide which method furnishes the greatest aid to diagnosis. Although the most sensitive test may yield the greatest number of positive results, it is the less useful for that very reason. None of the different tests gives information as to the seat of the disease. Except the conjunctival, none reveals whether the disease is active or cured, recent or old. Wolff-Eisner, however, claims that his method produces no reaction except in the presence of active tuberculous processes. The prognostic value of the tuberculin test is therefore in doubt.

Conclusions: 1. There exist many tuberculins, produced by different methods. The results from the same method, but from tuberculins of different origin, indicate that they no not possess a real identity. Therefore, it is desirable that a common standard should be adopted in order to measure their activity.

2. Some of the reactions recommended for the detection of tuberculosis produce

general symptoms, especially thermic; others, more recently discovered, produce local phenomena. The manifestations (general or local) ought in theory to be more precocious and more intense in subjects with latent or patent tuberculosis.

3. But it is often difficult to assign to them their pathognomonic value as many are positive in subjects who are clinically healthy.

4. To be of value in medical practice, a method should be inoffensive, of easy application and not too sensitive. From a strictly impartial point of view none of the methods is beyond criticism in these respects.

5. All the methods agree in demonstrating that tuberculosis, latent or patent, is the more frequent, the more advanced the age of the patient. It follows that the results from the tuberculin test are most valuable during the first four years of life. Beyond that age they help in the diagnosis, but their exact value must be rigorously discussed in each particular case.

Bulletin de la Société de pédiatrie de Paris.

(April, 1912, No. 4).

Abstracted by Harvey P. Towle, M.D.

Cutaneous Bromides in Nurslings. J. Comby, p. 153.

In Comby's first case the bromide eruption occurred in a child of seven who had "used and abused" bromide for a long time. Unlike the case reported by Halle at the February meeting, the eruption was not on the face but was symmetrically distributed over both legs. The lesions were extremely rebellious to treatment and disappeared only when the administration of bromide was stopped.

The second case was that of a child, now ten months old, who was born in Buenos Ayres and who was breast fed. When two months old, a disseminated eruption appeared which was diagnosed as impetigo. This lasted for two months, but disappeared during the voyage to Paris. Shortly after landing, the eruption reappeared with greater intensity than before. The child gained in weight and took sufficient nourishment. Nevertheless he grew pale and had digestive disturbances, a coated tongue and very foul stools. In January, 1912, the child was taken to Nice, where the eruption was again diagnosed as impetigo. Returning to Paris in February, he was seen by Dr. Darier who, at first, looked upon the affection as a "pyodermite" and advised that each lesion should be opened. This was done but no pus was found. At a second consultation, Dr. Darier thought of dermatitis medicamentosa. Then, for the first time, the mother confessed that she had been in the habit of taking daily 15 to 30 grains of bromide to overcome her nervousness and insomnia. This had been her practice in Buenos Ayres and in Paris, but during the voyage to Paris she had taken none. The baby had never received any bromide directly, only such as was carried by the mother's milk. Bromine was found in the milk and in the urine by chemical analysis, but in minimal amount only. It seemed certain, however, that the eruption in the child was the result of a bromide intoxication by way of the breast milk, for, twenty days after the mother had ceased to take the drug, the eruption had nearly disappeared and, in every other direction the child's condition had been bettered immensely.

British Journal of Children's Diseases.

(1912, ix, No. 102).

Abstracted by Harvey P. Towle, M.D.

The Paternal Transmission of Syphilis. C. S. Marshall, p. 204.

This paper discusses various arguments for and against the possibility of the transmission of syphilis from the father to the child without disease in the mother. According to the writer, the theory of paternal transmission was accepted by the majority of syphilographers until 1903 when it was denied by Matzenauer, who maintained that the mother was always infected. Marshall gives as the chief clinical arguments in favor of paternal transmission: 1. A woman may bear a syphilitic child by her syphilitic first husband and afterwards have healthy children from a non-syphilitic husband. After a series of syphilitic children a healthy child may be born after mercurial treatment of the father only. Matzenauer answers that: 1. As the mother is always infected directly by the father, the question of paternal transmission applies only to the first child. After this, the influence of the father cannot be proved. The subsequent birth of healthy children he explains by the theory of alternating transmission. 2. Assuming that the mother of a syphilitic is always a syphilitic, treatment of the father is an immaterial fact and the explanation of the birth of subsequent healthy children is again by alternating transmission. 3. There exist contrary observations showing that an apparently healthy mother may give birth to syphilitic children not only from a syphilitic first husband but also from a second or third healthy husband.

Marshall considers the arguments in favor of paternal transmission as equally plausible, if not more probable than the arguments in opposition. Matzenauer is said to have based his denial of the paternal responsibility upon "the two principal assumptions" that: (1) the semen is not contagious and (2) the mother is herself a syphilitic (Colles' law). To controvert the first argument, Marshall quotes Finger and Landsteiner's successful inoculation of apes by means of semen expressed from the seminal vesicles of a syphilitic patient. As regards the immunity of the mother, he does not consider that the theory that the woman is always directly infected by her husband and that the chancre escapes notice, satisfactorily explains why secondary symptoms are so frequently absent in such cases.

Hochsinger has reported the histories of 72 families in which the fathers were syphilitic, but in which the mothers showed no signs of disease during periods extending over from 4 to 19 years. Marshall admits that the mothers may have latent syphilis which will develop at some future time, but contends that it is certainly unusual for a patient to show no symptoms during such long periods. To the more recent argument that paternal transmission is not possible because the spirochætæ are too large to enter the spermatozoa, the short answer is made that there is no need for the parasites to enter. They may be carried in the seminal fluid. To the second objection, that the spirochætæ can not enter the ova without destroying them, the writer gives more consideration. After stating that the spirochætæ do actually enter the ovum according to Levaditi and Hoffmann who found them in the ova in a case of hereditary syphilis, Marshall discusses the possible existence of different morphological forms. It has been suggested that certain observations seem to indicate that there may be a granular form of the spirochæta corresponding to the more resistant spore-forms of other organisms. That the spirochæta may

pass through the placenta from the fœtus to the mother is considered possible, at least as regard the spores.

Discussing the fact that the majority of mothers of syphilitic infants give a positive Wassermann reaction (about 71%), Marshall regards it illogical to infer that therefore all mothers of syphilitic children are themselves syphilitic and that this reaction also explains Colles' law. This is, he thinks, by no means necessarily the case. Assuming that the Wassermann reaction is evidence of syphilis, the statistics of the reaction show that 30% of the cases are not accounted for. Marshall then calls attention to the approximation of these figures to Fournier's estimates of the relative frequency of the maternal and the paternal origin of syphilitic disease in children. He thinks it not impossible that the 70% of mothers yielding a positive reaction may represent the cases of maternal transmission and the 30% yielding negative results the cases of purely paternal transmission. Here, however, conceptional syphilis steps in and complicates the problem "for it is probable that the majority of mothers are infected either with active or latent conceptional syphilis if paternal transmission occurs." Therefore the Wassermann reaction is no argument against the possibility of such transmission. Baisch, he says, concluded that the mothers of syphilitic children have latent syphilis and that his investigations showed that the complement-binding substance is formed in the organism in which it is found, and does not traverse the placenta. Leroux and Labbé, on the other hand, consider that maternal syphilis is more often derived from the fœtus (conceptional syphilis) than direct infection from the father.

Marshall argues that Baisch's conclusions are not justified because they are based upon the results of the Wassermann reaction. He argues that although a positive reaction may indicate the presence of syphilis, it does not indicate the source of infection. Moreover, the Wassermann reaction is known to exhibit considerable variation in its results, even to the occurrence of a negative reaction in the presence of obvious symptoms of syphilis. Therefore, to attempt to decide such problems as the paternal transmission of syphilis and of syphilis by conception "on the sole evidence of a variable and uncertain laboratory test is, I think, going too far."

Marshall's final conclusions are that from the above considerations "there is not sufficient evidence to justify the renunciation of the doctrine of the paternal transmission of syphilis. This doctrine is strongly supported by clinical evidence, while the theoretical considerations are quite as much in favor of it as against it."

American Journal of Diseases of Children.

(1912, iii, No. 1).

Abstracted by Harvey P. Towle, M.D.

Leukocytic "Inclusion Bodies," with Special Reference to Scarlet Fever.

John A. Kolmer, p. 1.

In November, 1911, Döhle described certain bodies found in the cytoplasm of the polymorphonuclear leucocytes in blood smears from 30 cases of scarlet fever. The object of Kolmer's study was to investigate the nature of these bodies and to determine their diagnostic value. To this end, he searched for them not only in the blood of scarlet-fever patients but also in diphtheria, serum sickness, measles and various other diseases of infectious origin. The inclusion bodies are characterictically found in the protoplasm of the polymorphonuclear leucocytes near the margin of the cell and without connection with the nucleus.

They have no fixed form, but ordinarily occur as rods or cocci. They are most abundant before the sixth day of the disease; they are rare after that. They stain readily with the ordinary blood stains but not with hæmatoxylin and eosin. Differential staining led Kolmer to conclude that the "bodies" contained no chromatin and were not protozoa. "They are probably composed of plastin, represent a degenerative process of the cytoplasm and are probably composed of spongioplasm."

Among other conclusions was the fact that they were found in 94% of the scarlet-fever cases during the first three days of the disease. They then began to diminish so that by the ninth day they were rarely found. In diphtheria they occurred in 42% of the cases of three days, or less, duration. After the three days they were seldom seen. "Inclusion bodies" were found in streptococcic infections as well as in scarlet fever. Their diagnostic value is limited but, as they were not found in "serum sickness," their presence differentiates that affection from scarlet fever. The "bodies" were also absent in measles and rothëln.

Recent Advances in our Knowledge of Measles. John F. Anderson and Joseph Goldberger, p. 20.

The results of their first experiments, made in 1910, with inoculations of monkeys with blood obtained from cases of measles were inconclusive. In an analysis of their own work and of the reports of others they noted that certain variations in the results were encountered for which there seemed to be no explanation. A careful review of all the facts led Anderson and Goldberger to suspect that the reputed insusceptibility of monkeys to measles might be only apparent and due, in fact, to a limitation of the time during which the blood from measles retained its power of infection rather than to immunity in the test animal. Their present study is based upon this theory of the limitation of the infectivity of the blood. Therefore the blood to be inoculated was drawn at regular intervals from a time six hours before the eruption appeared, up to 48 hours after its appearance. Additional inoculations were made after 65 and 113 hours. The conclusion drawn was that the results point strongly to a period of infectivity of the blood beginning at least 24 hours before and continuing for about 24 hours after the first appearance of the eruption.

Studying the nature of the virus in the blood it was found that the virus passed through a Berkefeld filter; that it resisted drying for 25 hours and freezing for a like period; that its infectivity was destroyed by heating to 55° C for fifteen minutes; and that possibly some infectivity remained after exposure to 15° C for 24 hours. Inoculations made with nasal and buccal secretions collected at various periods of the disease seemed to indicate that these were not always infectious and, when so, only in the 24 to 48-hour period of the eruption. Six attempts were made to inoculate monkeys with the scales collected from human patients from four to seven days after the appearance of the eruption, which were all failures. Cultures made with measles blood were unsuccessful, although the positive results of inoculations proved its positive infectivity.

The Diagnostic Value of the Cutaneous Tuberclin Test of von Pirquet. F. L. Wachenheim, p. 27.

The task which the writer has assumed is to demonstrate that the generally accepted idea that the von Pirquet test is likely to be positive in the presence of healed tuberculosis is too sweeping and underrates the value of the test. He also asserts that the significance of a positive reaction is nearly as great in later childhood as in infancy, at least under such conditions as he has met.

Wachenheim investigated a series of 50 children whose cases he divides into two groups. The first group included 13 infected children, all but 3 of whom were over 7 years old. All gave a positive reaction to tuberculin, the intensity of the individual response varying quite closely with the intensity of the disease present in each individual. The second group comprised 37 children whose physical condition was below normal, but in whom the diagnosis of tuberculosis was not warranted by the known facts. Nine were under 5 years of age. The ages of the others ranged from 5 up to 13 years. Only 2, or 5.4%, of those children gave a positive result. The method used was to make three scarifications, as taught by von Pirquet, with the control test in the middle and using undiluted old-tuberculin. The wounds were examined at the end of 48 hours, when even moderate reactions, if present, were recorded as positive on the ground that the false reactions will have disappeared before that length of time. When the reaction is typical, it persists for at least a week. When intense, the erythema surrounding the papule is half an inch in diameter and persists for a considerable time, even up to a month.

Wachenheim considers that the race of the patient is a factor of considerable importance in the results because certain races are admittedly more refractory to tuberculosis than others. For example, Jews are less susceptible than Italians. The racial factor, however, emphasizes the diagnostic value of the test. Therefore a positive reaction should, according to the writer, always be regarded as a warning. His statistics show that at least 90% of presumably healthy, though not robust children, over 5 years of age do not react, a percentage which, he says, proves the incorrectness of the view that most persons well or ill, react positively. The Moro test he considers less reliable than the von Pirquet as it is often negative when the latter is positive. Of all tests, Wachenheim believes the von Pirquet to be "the least equivocal and the easiest and the most accurate in its application."

(*Ibidem*, 1912, iii, No. 6).

A Case of Allergy to Common Foods. Oscar M. Schloss, p. 341.

The patient was a boy, eight years old who exhibited a pronounced idiosyncrasy to eggs, almonds and oats. Except for ichthyosis in the maternal grandmother, the family history was negative. For the first 18 months of his life he was breast fed and received no other food. The child had suffered from seborrhœic eczema, convulsions, mild symptoms of rickets and repeated attacks of inflammation of the respiratory tract.

When 10 days old the infant had a mild diarrhœa for which he was given the white of the egg in barley water. No symptoms whatever followed its administration. When egg was given for the second time the boy was 14 months old. He took a few tastes of a soft-boiled egg, when he cried and refused more. He at once began to claw his mouth and tongue, and the buccal tissues swelled to many times their normal size. Around the mouth there developed typical urticarial wheals. It is noted that, toward the end of his second year, the boy developed an urticarial rash upon the hands and arms whenever he had played with empty egg-shells.

At 22 months, an attempt to feed the patient with a small amount of the white of an egg in milk was immediately followed by vomiting, swelling of the lips, tongue and inner surfaces of the cheeks and by a general urticaria. When two years old the patient was given a small quantity of partially coagulated egg-white between slices of bread in order to determine the exact effect of the egg. Very little was eaten, yet the child was made extremely ill. There was the usual swelling of the tissues with which the egg had come in contact but,

in addition, there were marked constitutional disturbances, such as flushing, rapid respiration, vomiting and mental dullness. Eight months later, vomiting and the usual swellings followed the eating of cake containing eggs.

The boy was 6 years old when he first showed a similar idiosyncrasy to almonds. He had eaten other nuts at various times with no ill-effects. Almonds, however, produced a queer feeling in the throat with the characteristic swelling of the tongue, lips and mouth.

His intolerance of oatmeal was first noticed when he was at the age of 22 months. During the course of a gastro-enteritis the child was given a single feeding of oatmeal jelly without disturbance. Thereafter oatmeal caused the same symptoms as eggs and almonds but in lesser intensity.

The problems to which Schloss addressed himself were the determinations of the constituents of the usually innocuous food stuffs which were responsible for the toxic symptoms, the underlying cause of the allergy and, finally, the remedy.

It was obviously necessary to devise some test method not involving the administration of the toxic substances. Therefore Schloss availed himself of von Pirquet's "borer" with which to make uniform abrasion of the skin into which the substances to be tested were rubbed gently; that is, he used the same technique as is employed in the cutaneous tuberculin test. By this method active substances produced within 5 to 15 minutes, a wheal around the site of inoculation. In stronger dilutions, mere contact with the skin, although unbroken, sufficed to produce typical urticarial wheals. The reaction was always immediate, lasted from one-half to one hour, when it disappeared without trace. Itching was not a constant accompaniment of the test-inoculations if the skin was broken. On the other hand, it was a constant symptom when the skin was left intact. Before proceeding, Schloss proved by means of numerous control experiments with various chemicals and forms of mechanical trauma that the reaction was truly specific. The results of the cutaneous inoculations of the toxic foods were directly comparable to the more striking results which followed their ingestion. The cutaneous reaction was therefore considered as direct evidence of the toxic nature of the substance tested.

The results of experiments convinced Schloss that eggs contained a protein, or some intimately related substance, to which the toxic action could be attributed. As, however, the white of egg contains several proteid substances, further investigation was necessary to determine whether all, and if not all, which fraction of them was toxic. For this purpose Schloss used five forms of protein in various dilutions. An inspection of the records now showed that that form of protein called ovomucoid was the most active and was capable of producing the cutaneous reaction in dilutions of 1:15,000 and frequently in dilutions as high as 1:20,000. Next in order of activity were ovomucin and ovoglobulin. The activity of egg-yolk was found to be about one-tenth as great as that of egg-white. Experiment seemed to indicate that, as in egg-white, the toxic factors in egg-yolk were also proteid substances.

A second line of experiments was undertaken to discover the toxic substance in almonds. The results showed that in this instance also the active constituents belong to or are intimately connected with the proteins. The proteose was the most active, being capable of producing the cutaneous reaction in about the same dilutions as ovomucoid. The experiments with oats are stated to have about the same significance as those with almonds. The active substances were closely associated or identical with the proteins. An active substance (proteose), which was slightly less toxic than the proteose of almonds, was diffusible.

The last series of tests were made with a variety of food substances, both as controls and as determining whether certain substances biologically related to the toxic foods were capable of causing a reaction. The conclusion drawn was

that "the cutaneous reaction was only relatively specific and was caused by substances biologically related to eggs, almonds and oats." Thus, the reaction was positive with the blood serum of the chicken and also with the sera of the turkey, goose and duck. The sera of creatures not biologically related, as the sheep, horse, pig and cow, provoked no reaction. With regard to almonds the case was the same. Plants belonging to the same family as almonds produced the cutaneous reactions. The foods related to oats gave results which, though similar, were not quite the same. Rice, barley and rye provoked a mild reaction but wheat and corn were apparently inert. Bananas proved to be an exception to the rule for, although in no way related to the toxic foods, they nevertheless caused a pronounced skin reaction. The reaction is probably "dependent on some definite grouping in the protein molecule."

Schloss next attempted to learn the nature of the patients' susceptibility to the proteins. Were there lacking sufficient protective substances or was he sensitized? An attempt to demonstrate protective substances in normal blood resulted in failure. Therefore, Schloss next tried to passively sensitize guinea pigs to eggs by means of his patient's blood serum. The results demonstrated that "the patient's blood serum contained some substance which was capable of sensitizing guinea pigs to ovomucoid. It seems justifiable to assume, therefore, that the allergic condition of the patient—to egg at least—was due to protein sensitization or anaphylaxis."

Schloss now took in hand the study of the most important problem of all, from a practical point of view, immunity. Rather than any one or all of the three foods a single proteid, ovomucin, was chosen for these experiments in immunization. If immunization to this single protein from the egg also induced immunity to the other proteins, it would indicate that sensitization was not specific but general to a common group. Further, if the single protein likewise induced immunity to almonds and oats as well as to a common group of proteins, it must follow that the allergic condition was the result of some active protein common to all three foods.

The method of immunization employed was the administration of capsules containing ovomucoid. Beginning with an initial dose of 2 mg. three times a day, the amount given was raised, gradually at first, then rapidly, until toward the end the patient was taking over 7 gm. of ovomucoid a day. The progress of immunization was determined by means of the cutaneous reaction. The cutaneous reaction to egg and the proteins from egg disappeared entirely. The proteose from oats caused no reaction in dilution as great as 1:50 and oatmeal has been eaten several times without ill effect. The reaction to almond proteose was weakened but not removed.

Although it would seem that the patient's allergic condition to three dissimilar substances was in some way related, it cannot be said that the original sensitization to eggs or oats also sensitized the patient to almonds. The sensitization to eggs and oats may have served in some way as a predisposing cause to the idiosyncrasy to almonds.

The Wassermann Reaction in Infants and Children: A Clinical Study. Frank Spooner Churchill, p. 363.

The reason underlying Churchill's study is found in an early paragraph. The diagnosis of congenital syphilis is easy in early life, difficult in late. Churchill believes that the clinical method of diagnosis will always be the most important but that other, recent methods will also be of great assistance, and especially the serum test. The author uses the serum test on a broad scale in an investigation of that large class of hospital patients which presents the symptoms of underdevelopment, enlarged lymph nodes and, often, a high lymphocyte count.

"They are generally below par, perhaps degenerate and present a condition due to a great variety of causes, one of which *may* be syphilis." Its presence (the Wassermann reaction) in such children "is very strong evidence pointing toward a syphilitic foundation for their deteriorated, degenerate condition; its absence, almost certain proof that syphilis does not exist."

Churchill undertook to determine what proportion of our hospital children show a positive serum reaction; what proportion of the positive cases present signs suggestive of syphilis; and whether the occurrence of a reaction in a child without characteristic physical signs means syphilis exists in that child. The Noguchi method was used in the test of the blood from 102 infants, 6 mothers and 2 fathers. Its results were positive 39 times, negative 63 times. In one case, the Noguchi reaction was positive, the Wassermann negative. One mother was negative; three were positive. One father, with a positive-reacting child, gave a positive result. The blood of the second father, whose child was positive to the Noguchi test but negative to the Wassermann, gave two negative Wassermann reactions. No Noguchi test was performed in this case. None of the children tested was admitted to the hospital with the diagnosis of syphilis, yet 39 of the total number admitted gave a positive result to the Noguchi test.

The author then analyzes the positive-reaction cases on the basis of the possession or lack of clinical signs or histories suggesting syphilis. Certain, especially interesting cases are given with more or less detail. One was that of an 18-months old child whose blood gave a markedly positive reaction to the Noguchi test. When, however, at the suggestion of the consulting syphilographer who would not accept the clinical diagnosis of syphilis, the Wassermann method was tried, the result was negative. Moreover, the father, who was an educated, refined man, not only denied personal syphilis but the result of the Wassermann test of his blood was negative. In another doubtful case, admitted with the diagnosis of tuberculous meningitis, the cerebrospinal fluid was strongly positive to the Noguchi test. At autopsy, there were found a tuberculous meningitis and also numerous tubercle bacilli. No evidence of syphilis, either macroscopic or microscopic, could be discovered.

Discussing the cases in which the only evidence of syphilis was furnished by the occurrence of a positive Wassermann reaction, Churchill accepts such positive reactions as satisfactory evidence of syphilis, his reason apparently being that: "Aside from syphilis, the only conditions in which positive Wassermann reactions occur are scarlet fever, jaundice, leprosy, carcinoma, diabetes mellitus, and possibly malaria" and none of these conditions existed. He then goes on to say that, even if they had been present, there is no reason to believe that any of these non-syphilitic diseases "would cause a reaction of such specificity as is the Wassermann reaction." In the further discussion, the suggestion is made that the positive reaction is to be considered evidence of syphilis in these cases but, owing to the total absence of confirmatory (clinical) signs, as syphilis in the latent stage. It is stated, however, that this reasoning cannot apply to three fatal cases as, notwithstanding the positive reactions, the autopsies did not confirm the diagnoses.

He concludes that his observations seem to indicate the existence of a much larger number of congenital syphilitics than has hitherto been suspected; positive reaction occurs in a great variety of syphilitic conditions, most often, however, "in the bony, nervous and circulatory systems."

"The comparatively large number of positive cases without physical signs, the 'symptomless' children, is another striking phenomenon. . . . . This . . . . . emphasizes the difficulty of a diagnosis and the importance of the serum test in unearthing these obscure cases."

British Journal of Dermatology.

(March, 1912, xxiv, No. 3).

Abstracted by Frank Crozer Knowles, M.D.

A Contribution to Our Knowledge of the Nævo-xantho-endotheliomata. J. E. R. McDonagh, p. 85.

The author reports five cases of this affection and the literature on the subject is reviewed. The condition closely resembles urticaria pigmentosa tuberosa. Congenital or juvenile xanthoma is of very unusual occurrence. The yellow tumors were noted at the time of birth in the first patient, upon the neck, the left arm, the legs and a few scattered over the trunk. There were about a dozen in all, from one-quarter to one-half inch in diameter and resembling very closely a xanthoma planum. Within three years after the birth of the child the tumors spontaneously disappeared. The lesions in the second patient appeared 14 days after birth; these swellings were scattered indiscriminately over the body and were about the size of a lentil when they appeared and were red in color. Many of these vanished shortly after their appearance, while others increased in size, became yellow and were surrounded by a reddish halo; the yellow swellings then became smaller and disappeared spontaneously. The third patient showed the limitation of the eruption to the forehead and the upper part of the face and the outbreak was more of the urticaria pigmentosa type. In the fourth case the outbreak occurred about three weeks after the birth of the child. The lesions first developed as small red spots and later became yellow in color; some of these spots remained while others disappeared spontaneously. Case five consisted of small, purple, raised tumors, from a pea to a small nut in size on the trunk, limbs, face and the scalp.

From the cases that have been mentioned, it will be seen that there is a special form of multiple growths of the skin, which are conspicuous because of their yellow color; these growths are either present at birth or develop during early life. They may commence as red tumors, like angiomata, to become later of a yellow color. The tumors are not necessarily limited to the skin and there is no evidence that there is any visceral disturbance. The histological picture found in these cases is somewhat complicated, as the tumors consist of large masses of round cells, resembling both the sebaceous-gland cells, and the epidermal cells, and are apparently continuous with the endothelial lining of the blood vessels. Cells resembling the giant variety are also present. In some of the cases the cells react to the staining for fat while in others it is absent. The growth is found in the corium and the subcutaneous tissues, and the changes in the epidermis are apparently due to pressure. An absence of pigment is found in the basal-cell layer. As the sebaceous-gland cells contain fat and the cells of xanthoma are not unlike them, these cells were said to have their origin from the sebaceous glands. As these tumors have been found in certain areas where there are no sebaceous glands, this theory is evidently refuted. Some of the giant cells are clearly capillaries and the others do not resemble the ordinary giant cell, as the nuclei are arranged equally all around and the protoplasmic masses can be demonstrated in fresh specimens to be made up of distinct cells—endothelial cells, the nucleus of each staining only faintly. The capillaries and lymphatics show an endothelial proliferation, which sometimes occludes the lumen and always extends outwards, invading the surrounding tissue so that the endothelial cells are indistinguishable from the cells of the growth. As the cells of the growth are indistinguishable from the endothelial

cells and are continuous with those lining the blood vessels, the author considers that the tumors under discussion are endotheliomata of the nævoid type, and that owing to a fatty change which occurs in the cells during their dissolution, a xanthoma-like condition is produced. Hence the writer suggests the name nævo-xantho-endotheliomata.

The Ætiology of Lupus Erythematosus. Douglas Freshwater, p. 99.

Freshwater has written an extensive and interesting article upon the ætiology of lupus erythematosus, reviewing the various theories as to causation and the pathology and reports on 20 cases that he has personally observed. A historical review of the disease is first covered in the article, then the description of the condition, including the different varieties, its relationship to tuberculosis, to the toxic erythema, especially erythema multiforme, its association with feeble circulation and chilblains and the study of the cases of the author, including the pathology. Freshwater divides erythematous lupus into the circumscribed or discoid, the diffuse or disseminated, the telangiectatic and lupus pernio or chilblain lupus. The histological appearance of the disease shows great variations, no doubt because the lesions were examined at different stages in their evolution, or because the biopsies were made from different varieties of the affection. Unna sums up the characteristic features of the affection as follows: The formation of inflammatory cellular areas containing plasma cells; the disappearance of this and of the collagenous bundles in favor of the dilating lymph system; primary hyperkeratosis, with or without acanthosis and its results; œdematous changes and hyaline swelling of the cellular areas and the prickle-cell layer; formation of plug-carrying scales with stoppage of the follicles; ultimate atrophy of cutaneous structures.

The author draws the following conclusions: Characteristic examples of the two main varieties of the disease differ in so many respects that it is difficult to conceive that they have a common cause. In view of our imperfect knowledge concerning the ætiology in skin diseases, we are not in a position to state that all eruptions apparently alike must be due to a single cause. There is no sufficient evidence, clinically, histologically, or bacteriologically, to show that lupus erythematosus is always a tuberculous condition. The hypothesis of the tuberculous toxine circulating in the blood and acting on the vessel walls locally is by no means satisfactory, as there are plenty of cases which do not show any signs of tuberculosis and the disease is extremely rare when compared to the frequency of phthisis.

The supervention of the disease on local injury to the tissues, as in the case of frost-bite, sunburn, etc., strongly suggests that a purely local cause is at times responsible for its occurrence. A large number of cases suffer from some anomaly of the circulation, so that the skin may be unable to bear an increased strain, such as might be produced by a toxine circulating in the blood. The exact nature of the toxine or toxines is uncertain. The primary involvement of the blood vessels, together with the symmetrical distribution of the eruption in the majority of cases, favors the supposition that the causative agent acts through the blood stream. The involvement of the flush area of the face, which is so frequently met with in this affection, can be readily explained by the slowing of the blood stream and diminished resisting power which the paretic vessels offer to the hypothetical toxine. Cases of lupus erythematosus and certain varieties of erythema multiforme are closely related.

The author in his final paragraph states that lupus erythematosus is probably due to some injury of the skin in a subject with a feeble circulation, to which may be added some poison circulating in the blood, such as the tuber-

culous toxine, the rheumatic toxine, or products arising from faulty metabolism of the liver, the kidney, uterine disease or the digestive tract.

(*Ibidem*, April, 1912, xxiv, No. 4).

Trichosporosis Nodosa. J. M. MacLeod, p. 131.

This curious condition was found by MacLeod on the hairs taken from an aboriginal Indian girl, of the Atavy tribe, living in the Rupununi District. The hairs were black in color and presented on the shaft a number of hard nodules varying in size from a minute speck to a small pinhead. The nodules were roughly oval in shape, brownish-black in color, hard, firmly attached and either seated on the side of the hair-shaft or forming a concretion completely ensheathing it. A dozen or more of these nodules were found on each hair examined and usually were some distance from the scalp. The nodules were found to consist of a mass of spores; no definite mycelial filaments were detected. Later, as the concretions increased in size, a destructive action was noted on the cuticle and the cortex of the hair. The spores had a yellowish appearance owing to the presence of diffuse coloring matter and pigment granules in the protoplasm; a fan-like grouping of the spores was also noted. Cultures were made in broth and in proof agar. In the former, a whitish, flocculent appearance was noted, while in the latter, roundish, heaped-up, grayish to brownish masses were observed. The condition is most closely analogous to piedra. The fungus found in the present case should probably be classed under the Trichosporon giganteum (Behrend) group. Trichosporosis nodosa has to be distinguished from the more common leptothrix, the concretions in the former consisting of spores, while in the latter a cement substance is chiefly found.

Rodent Ulcer Affecting the Retro-auricular Sulcus. J. H. Sequeira, p. 137.

Sequeira records a case of rodent ulcer developing in a wart, in the retro-auricular sulcus. The histological report showed the presence of a basal carcinoma. The interest of the case lies in the situation of the growth, its peculiar limitation to the sulcus posterior to the ear and in the fact that the patient experienced very little discomfort. The growth of the tumor was very slow.

Tinea Tonsurans in a Patient of About Sixty Years. George Pernet, p. 141.

Hairs were examined from a lady of about 60 years, who had a scaly condition of the scalp and an alopecia of one year's duration. Some of the bent and broken hairs were examined microscopically; bits of mycelium and individual segments and spores in twos and threes could be seen; also similar elements scattered about the field. At the proximal end the mycelium was distinctly seen inside of the hair. The diagnosis was made of the Trichophyton megalosporon endothrix.

(*Ibidem*, May, 1912, xxiv, No. 5).

Some Physico-therapeutic Methods in Dermatology. Malcolm Morris, p. 169.

Morris takes up in a fifteen-page article the physico-therapeutic properties of the X-rays, radium, the Finsen light and freezing with carbon dioxid snow. The knife should be used on growths of a high degree of malignancy such as cutaneous epithelioma, sarcoma and Paget's disease. The X-ray or radium, singly or combined, should be used in inoperable cases; in those cases in which the patient refused operative intervention; in those cases in which excision would involve grievous disfigurement or disabling mutilation. In the first stage of

rodent ulcer, if the mucous membrane be unattacked, radium may be confidently relied upon to destroy the growth. In cases in this first stage where the area of involvement is more extensive, solid carbon dioxid may first be tried and radium treatment be superadded. The X-rays are to be commended in mycosis fungoides; also in leprosy, particularly the macular variety. In non-ulcerating lupus vulgaris of small extent the Finsen light gives the best result. In cases with superficial and limited lesions, carbonic acid snow may be employed. In the more severe cases the X-ray offers the best therapeutic measure. The X-rays should be used in the treatment of tuberculosis of the skin and tuberculous glands. Carbonic acid snow is the best method of treatment to be pursued in lupus erythematosus. The snow is also helpful in dealing with X-ray dermatitis with keratosis, in rosacea, rhinophyma, chronic eczema and psoriasis. The X-ray or radium is also recommended in the treatment of keloid, hypertrophic lichen planus, pruritus, warts and corns. The X-ray is also mentioned in the treatment of the various forms of tinea. Reference is made to the snow treatment of the different varieties of nævus.

British Medical Journal.

(Feb. 24, 1912, No. 2669).

Abstracted by Frank E. Simpson, M.D.

On the Transmission of Leprosy to Animals by Direct Inoculation. H. Bayon, p. 424.

Bayon reviews the work done by grafting lepromata to animals direct from the patient. Beginning with Neisser who in 1881 believed that he had successfully inoculated two dogs with leprous nodules, the author quotes sixteen other more or less successful inoculations and gives the results of the inoculation by himself of four rats. In two rats, leprosy was apparently transmitted as shown by the development in the testes, which were the sites of inoculation, of nodules containing acid-fast bacilli. He concludes that under suitable conditions it is possible to transmit leprosy to the lower animals, especially the rat, rabbit and mouse.

(*Ibidem*, March 2, 1912, No. 2670).

A Lecture on Pruritus Vulvæ. R. A. Gibbons, p. 469.

Gibbons divides pruritus vulvæ into two forms: 1, symptomatic; 2, essential. The latter is a pure neurosis and is very rare. As factors in the production of symptomatic pruritus the author notes: 1. Its frequency at or following the climacteric. 2. Mechanical injury. 3. Diabetes. This may produce pruritus in various ways according to different authors. Thus it may be hæmatogenous and analogous to the pruritus of jaundice, or it may be due to the constant bathing of the mucous membrane by decomposed diabetic urine. 4. Pediculi, ascarides, Oidium albicans and gonococci. 5. Small, very sensitive, ulcerations around the vaginal orifice. 6. Kraurosis. 7. Diseases higher up in the genital or urinary tract. In treating pruritus vulvæ, Gibbons advises a careful search for the cause. Internally the bromides and a proper diet. Externally the remedies are legion. Hot applications, cocaine, liquor potassæ and mercuric chloride lotions may be used. Menthol (1 to 5 per cent.) as an ointment, is highly commended. Ointments of the usual formulæ are mentioned as are X-rays, radium and high-frequency currents. As novelties are noted the injection of Schleich's fluid into the sacral canal and the subcutaneous injection of physiological salt solution

into the worst areas. The Paquelin or electro-cautery may be used when ulcerations are present. Excision of the diseased area has been done with alleged benefit. Division of nerves supplying the area is mentioned but not advised.

(*Ibidem,* March 9, 1912, No. 2671).

The Curative Effect of Leishmania Culture "Vaccine" in Oriental Sore. R. Row, p. 540.

Row states that in his experience with Oriental sore it has been impossible to use drastic measures in what after all is a benign malady. The great chronicity of the disease is noted—six to eighteen months, or even longer, being usually required to heal the sore. Row has made cultures from an experimental lesion in a Macacus sinicus and from these has made vaccines which have been used in three typical cases of Oriental sore. From these cases he concludes: 1. 0.25 cc. of the vaccine is well borne with only slight constitutional disturbance. 2. A slight itching in the lesion is the only local effect except that the sores have healed in a remarkable manner in about two weeks. The results of other experiments now in progress will be communicated later.

(*Ibidem,* April 6, 1912, No. 2675).

Results of the Treatment of Syphilis with Salvarsan at the Royal Naval Hospital, Haslar. F. B. Shaw, p. 777.

Shaw reports the results of treatment by salvarsan of 340 cases in hospital practice. These represent primary, secondary, tertiary and latent cases. The intravenous method was used in all but the first 26 cases. One of the striking effects of salvarsan was seen in the reduction of the average number of days of sickness from 27 to 19, the latter figure representing the average number of days sickness in the hospital after the introduction of the drug. There were no local sequelæ and the general symptoms from the use of the drug were trivial. In its effect on the Wassermann reaction salvarsan was superior to mercury. The general plan of treatment was as follows:

In primary syphilis two injections of salvarsan were given 8 to 12 days apart. No further treatment was used unless the Wassermann became positive. In early secondary syphilis, two injections of salvarsan were given. In certain cases mercury and iodides were used in addition. In late secondary and tertiary syphilis, Shaw used a similar procedure to that employed in the early secondary cases. In latent syphilis, salvarsan was not used as a routine and Shaw does not recommend it except in selected cases.

(*Ibidem,* June 8, 1912, No. 2684).

The Action of Salvarsan and Neosalvarsan on the Wassermann Reaction. J. E. R. McDonagh, p. 1287.

McDonagh gives some conclusions based on several hundred Wassermann findings subsequent to the use of salvarsan and neosalvarsan. In the primary stage, when the reaction is negative before treatment, most cases give a positive reaction afterward. The degree of positiveness diminishes about the third and becomes negative before the eighth week. The blood should be tested on the second and fifth day after the first injection and if positive on either occasion, the injection should be repeated on the eighth day. A provocative injection should also be given 6 to 12 months later. In the secondary stage when the blood is strongly positive, four injections of salvarsan are the minimum likely to cure syphilis.

In the tertiary stage, the Wassermann reaction behaves in much the same way as in the primary and secondary stages. One peculiar exception is noted. A patient with a strong positive reaction before treatment may become negative after injection and remain so from one to three days and then become positive again. Patients who have had syphilis and give a negative Wassermann reaction are either cured or in the latent stage. Which of the two can be ascertained only by giving a provocative injection of salvarsan and then testing the blood. As a rule 3 to 7 injections are necessary to cure syphilis. A permanently negative reaction is most easily obtained when the injections of salvarsan follow closely upon one another and when mercury is given simultaneously. With neosalvarsan the results have been much better than with salvarsan because two maximum doses of the former can be given weekly without any ill-effect. Many cases in the tertiary stage can be cured with neosalvarsan where salvarsan has failed. McDonagh now advises 3 to 7 injections of neosalvarsan given at intervals of 7 to 14 days. This has been done by the author for some months without a single bad symptom or recurrence.

(*Ibidem*, June 22, 1912, No. 2686).

On the Treatment of Syphilis. D'Arcy Power, p. 1418.

Power notes briefly the recent advances in the treatment of syphilis. The long courses of mercurial treatment advocated by Jonathan Hutchinson, while often apparently successful in curing syphilis, frequently resulted in disappointment. Lambkin's method of injecting mercury in the form of calomel cream and metallic mercury gives excellent results. The routine laid down by Lambkin is given in detail and marks a distinct advance in our therapy. It is less fitted, however, for private practice. Formulæ are given for the administration of ordinary "mixed treatment" which are less nauseous than those usually employed. Salvarsan cures the sypmtoms of syphilis more quickly than mercury. It also can be employed as a test for syphilis because in many cases it reverses the Wassermann test from negative to positive while in a short time it becomes negative again. Salvarsan is a useful remedy if its limitations are recognized. It serves as an excellent adjuvant to mercury. It is especially useful in chronic superficial glossitis, in active syphilitic periostitis and in ulcerating syphilides of the skin. It is less serviceable in cranio-tabes, in cases of osteitis associated with sequestra and in syphilitic arthritis. The technique of intravenous administration is described, the method which Power always employs. There are some contraindications to salvarsan but these are not clearly defined. About 23 fatal cases have been reported but some were due to faulty technique and in others the drug was clearly contraindicated. The combined treatment of mercury and salvarsan is on the whole probably the best. In case of an accidental inoculation, Power advises the local use of 33 1-3 per cent. calomel ointment as a prophylactic, provided it can be used within 24 hours and the intravenous injection of 0.6 gm. of salvarsan.

(*Ibidem*, June 29, 1912, No. 2687).

Prurigo, Pruriginous Eczema and Lichenification. Malcolm Morris, p. 1469.

Morris writes interestingly of pruriginous eruptions.

Prurigo. An historical note concerning prurigo relates that Hebra was not the first to describe this disease. Willan, Cazenave, and Devergie had described it, though not clearly, as lichen agrius. The confusion of these pruriginous eruptions was not diminished by Vidal, Brocq, Besnier, and Darier who each described and endeavored to classify the prurigos. In 1881, the prurigo of

Hebra was first recognized as such in England. At the third International Congress of Dermatology held in London in 1896, wide differences of views prevailed. J. C. White enumerated nine different concepts of the essential nature of prurigo and added a tenth—pathology unknown.

With regard to classification Morris recognizes three forms of prurigo—prurigo gravis, prurigo mitis and prurigo ferox. He limits his conception of the disease to cases that present itchy, discrete, hard papules in certain situations and lichenification. Absence of one of these clinical factors excludes certain diseases variously classed with the prurigos, such as the lichen urticatus of Bateman, the urticaria papulosa or strophulus of Kaposi and Duhring and the prurigo vulgaris of Darier, the last corresponding with Brocq's neurodermatitis. The symptoms of "true" prurigo are given. The dictum of Hebra and Kaposi that prurigo always appears between the eighth and twelfth months of life must be given up. While admitting that urticaria papulosa may form a connecting link between urticaria and prurigo, Morris has never seen an urticaria develop into prurigo. The dermatologic symptoms of prurigo are succinctly given. After the third year of life the clinical picture does not change. It is remarkable that prurigo mitis never changes to prurigo ferox. The question long discussed as to which is primary—the itching or the papule—has competent observers on both sides. Morris reconciles these two views by admitting the probability of both. He believes, however, the actual cause of the disease is behind both—the one being a symptom and the other a sign of the disorder.

Etiology. This is uncertain. The elaborate theories of Brocq may be dismissed. Darier attributes the disease to heredity and perhaps alimentary errors. Morris admits the probability of heredity and mentions the possibility of microorganisms as suggested by Unna.

Pathology. The principal theories are: 1. That of Riehl—the papules are spastic œdematous lesions of the cutis, closely allied to urticaria. 2. That of Auspitz—that they are pseudo-papules, due to contraction of the arrectores pili. 3. That of Caspary—that they are epithelial, acanthotic papules.

Prognosis. Hebra believes prurigo incurable, but this opinion is not held by Morris, who believes in a more hopeful prognosis in mild cases.

The diagnosis is easy in typical cases. The treatment is of special importance in early cases. Sulphur, tar, soap, and naphtol are variously employed. Brocq uses cod-liver oil as the best topical application. Thyroidin is well spoken of. Thibierge has used lumbar puncture. Radium and X-rays promise well.

Pruriginous Eczema. The pruriginous eczemas connect prurigo with eczema. The intense itching allies them with prurigo while distinct eczematous lesions occasionally arise. From true prurigo they are differentiated by a history of eczema, by an erratic course and by the position—away from the extensor surfaces. In these eczemas a vicious circle is set up. The itching provokes scratching; the scratching sets up lichenification which provokes further itching by irritating the nerve endings.

Lichenification. The word was coined by Brocq in 1891. It implies, not a condition pathognomonic of a definite morbid state, but one occurring in the course of many dermatoses, such as prurigo, eczema, lichen planus, etc. It even may be primary, without a preceding dermatosis, resulting, *e. g.,* from slight habitual friction. It means the peculiar roughening and thickening of the skin following unusually persistent scratching. The group of conditions which Brocq calls "neurodermites' corresponds with chronic or papular eczema of the Vienna School, the lichen simplex chronicus of Vidal and the prurigo vulgaire of Darier. The skin first darkens in color. It becomes finely grained and flat, ill defined, somewhat shiny and pseudo-papules appear. The skin grows thick and hard and is broken up into a network of square or polygonal meshes.

Lichenification is mostly typical in Brocq's "neurodermatitis" which may be circumscribed or diffuse. An interesting description of the plaques of lichenification is given. The treatment of lichenification may be by X-rays or radium. Morris prefers the latter with which he has had marked success.

Lancet.

(April 27, 1912, clxxxii, No. 4626).

Abstracted by Frank E. Simpson, M.D.

The Treatment of Bilharziasis by Salvarsan. H. B. Day, p. 1126.

Led by the report of Joannides, Ehrlich gave wide publicity to the former's statement that salvarsan cured bilharziasis. Day undertook to test the value of salvarsan in this disease. After treating three cases he concluded that salvarsan in bilharziasis is absolutely worthless.

(*Ibidem*, May 18, 1912, clxxxii, No. 4629).

The Treatment of Rodent Ulcer. Edward Reginald Morton, p. 1333.

Morton states that the methods mostly in use are X-rays, radium, zinc ionization and solid carbon dioxide. All of these methods are successful and it is the ease with which cases can be healed that produces danger, as the disease, although apparently well, is not completely so. Morton believes that of the above procedures solid carbon dioxide forms one of the best methods of treating this disease. He has treated 27 cases by this method and his original patients are still well after two years.

(*Ibidem*, May 25, 1912, clxxxii, No. 4632).

A Dermatitis Caused by Dinitrochlorbenzole. M. J. Bernstein, p. 1534.

Bernstein reports nine cases of dermatitis due to the above substance. This is an organic compound of chlorine, occurs in the form of lemon-yellow crystals and gives out an odor of bitter almonds. It is used in the manufacture of certain dye-stuffs. The dermatosis takes the form of an erythema with much œdema and scattered papules and vesicles. A characteristic feature is the distinctly yellowish tint of the affected skin. Severe itching accompanies the eruption. The cases were all amenable to soothing treatment.

The Presence and Intensity of Syphilis in the Past and at the Present Day. Norman Moore, p. 1600.

Moore gives an interesting discussion, entirely historical, of syphilis, particularly with reference to its occurrence or absence among the ancient Egyptians. From a personal investigation of mummies and separate bones in Cairo, Egypt, he believes that undoubted lesions of syphilis have not yet been demonstrated among the Egyptians in the pre-Christian era.

Syphilis d'Emblée. J. Ernest Lane, p. 1605.

Lane discusses the meaning of the term syphilis d'emblée. As used in England it means syphilis without chancre, but it should be made to include cases in which the chancre is an "insignificant lesion." Lane prefers the term cryptogenetic syphilis, meaning "of hidden origin." Lane has been struck with the

frequency of cryptogenetic syphilis among physicians. He quotes two cases related by Jullien in which a surgeon and his assistant were pricked by a needle while operating on a syphilitic woman and both developed constitutional syphilis without a previous chancre. He relates five cases of his own in medical men. Four of these showed constitutional syphilis without previous chancre. Lane also calls attention to the non-recognition of intraurethral chancre. He urges the use of precautionary and prophylactic measures such as rubber gloves and calomel ointment.

(*Ibidem*, June 29, 1912, clxxxii, No. 4635).

Disappearance of a Skin Carcinoma Under Local Application of Adrenin. L. C. P. Ritchie, p. 1754.

Ritchie reports a case of epithelioma in a man 63 years old. The lesion was 3x2.5 cm. and projected above the niveau 1.2 cm. The same area had previously been affected by a similar growth which had been excised on two previous occasions. Potassium iodide was at first prescribed. A microscopic examination proved the growth to be carcinomatous. X-rays were then used and, later, one milligram of radium was applied at intervals for three months. There was no further extension of the growth, but recovery did not occur. Adrenin solution was then used prior to the radium applications to render the tissues anæmic and at the end of three months more the lesion was completely healed. Ritchie believes the adrenin applications were of value in rendering the tissues more permeable to the action of the radium emanations.

Medical Record.

(June 15, 1912, lxxxi, No. 24).

Abstracted by Frank E. Simpson, M.D.

The Practical Value of the Wassermann Reaction. D. M. Kaplan, p. 1132.

Kaplan considers the Wassermann reaction from three viewpoints: First, its theoretical development. Second, its accordance with the side-chain theory of Ehrlich. Third, the viewpoint of the practitioner. He gives a short explanation of the nature of the Wassermann reaction and states that from a theoretical point of view it has very little in common with Ehrlich's side-chain theory. From the standpoint of a specific antigen or antibody the reaction is not specific, inasmuch as extracts from beef livers and hearts and guinea-pig hearts may be used as antigen. To explain the modus operandi of the Wassermann reaction it is stated that in recent, less so in remote, syphilis (as well as in some other diseases), substances of unknown nature which can prevent hæmolysis in the hæmolytic system develop and circulate in the serum.

Kaplan calls this substance the inhibitory extract. It belongs chemically to the fatty acids or lipoids. For the complete inhibition of hæmolysis another substance, an antigen, is necessary. The Wassermann reaction, so far as its relation to the teaching of Ehrlich is concerned, is a lucky find. In its practical bearings Kaplan lays stress on the importance of the actual experience of the laboratory worker. A few practical suggestions as to the technique are given. The personal equation is important in the interpretation of the Wassermann reaction. Only an unquestionably positive result is considered important by the experienced worker. Designations such as "weakly positive," etc., carry no diag-

nostic significance. Both patients and physicians should rid themselves of the notion that the Wassermann test is the final court of appeal. One should not consider a reaction without also taking into consideration the history and clinical findings.

Mercury in Syphilis. Walter S. Reynolds, p. 1135.

Reynolds gives a short exposition of the treatment of syphilis with mercury. Rubbings and intramuscular injections are especially commended. Nothing new is incorporated in the article.

Journal of the American Medical Association.

(March 23, 1912, lviii, No. 12).

Abstracted by Frank E. Simpson, M.D.

Epithelioma of the Tongue with no Recurrence Nine Years After a Clinical Cure with X-rays. Martin F. Engman, p. 857.

Engman reports a case of epithelioma of the tongue which was treated by 30 exposures to X-rays. Operation had been refused. No sections were made on account of the danger of metastases but clinically it was a typical epithelioma. There has been no recurrence in the last nine years, although Engman does not recommend X-rays as a usual method of treatment in epithelioma of the tongue.

(*Ibidem,* March 30, 1912, lviii, No. 13).

A Cutaneous Reaction in Gonococcal Infections. Ernest E. Irons, p. 931.

Irons describes a reaction similar to the cutaneous tuberculin reaction, occurring in gonococcal infections, when a glycerine extract of the gonococcus is introduced into the skin by von Pirquet's method. In 12 to 24 hours a hyperæmic area, 5 to 10 millimetres in diameter, appears around the inoculated point. Frequently a definite papule develops. Controls of non-gonococcal extract show only a needle puncture. In non-gonorrhœal infections and in normal persons, gonococcal extract produces no more reaction than the control, or at most a hyperæmic area 2 to 3 millimetres in diameter. Irons has noted that the reaction to one strain of gonococcus is occasionally more pronounced than in others, so that a combined extract of many strains may be desirable for practical use.

(*Ibidem,* April 6, 1912, lviii, No. 14).

Infantile Eczema. C. A. Simpson, p. 995.

Simpson emphasizes the different views prevailing as to the ætiology of eczema. Boekhart's experiments have shown that lesions indistinguishable from eczema can be produced by inoculation of staphylococci. Sabouraud uses the terms "acute and chronic staphylococcic epidermatosis" for this condition. The increased susceptibility of patients after an attack once starts has been noted. Bruck's experiments are interesting. A patient once poisoned by pork developed an anaphylactic state to this substance. Injections of his serum sensitized two guinea pigs so that when these were injected later with hog serum death occurred. The hypothesis is strengthened that such conditions occur in man and that recurrent eczema may be due to a sensitizing substance in the

blood arising from bacterial irritation from without, or food products from within. In the treatment of eczema, Simpson uses the well-known remedies. Baths are forbidden. Resorcin water (one to fifty) and a solution of aluminium acetate are recommended in acute eczema. Later, the well-known salves and pastes of Hebra, Kaposi and Lassar are employed. Tar is highly recommended in the form of liquor carbonis detergens, oil of cade or anthrasol. In the treatment of infantile eczema arsenic is recommended, especially in chronic infiltrated types. Vaccines have hitherto been unsuccessful in the hands of most dermatologists.

(*Ibidem,* April 20, 1912, lviii, No. 16).

Experimental Research in Syphilis with Especial Reference to the Spirochæta Pallida (Treponema Pallidum). Hideyo Noguchi, p. 1163.

Noguchi begins his epoch-making article with a brief historical note on syphilis. The only missing link in the chain of proof of the causative relation of the Spirochæta pallida to syphilis was the inability to produce pure cultures which should cause crucial pathologic changes in animals. Impure cultures were at first obtained by several workers.

Three investigators claim to have made pure cultures: Mühlens, W. H. Hoffmann and Noguchi. Noguchi believes that the evidence is insufficient that the first two investigators mentioned have actually produced pure cultures. He, himself, has produced six different strains of pallida from the orchitis material of rabbits and seven from human material. These strains are all identical in morphologic and cultural characteristics. The proof of their pathogenicity has been adduced by the production of typical orchitis in rabbits and initial lesions in monkeys. The monkeys, several weeks later, developed a positive Wassermann reaction. As further proof of the identification of the cultivated pallida strains, experiments on rabbits were conducted. Immune sera prepared with the cultivated pallida fix the complement with the antigen derived from the pallida of rabbit's orchitis tissue as well as from the culture. The immune sera prepared with the orchitis-tissue pallida reacted also with both antigens. Both sets of immune sera gave negative results with antigens made of pure cultures of mouth spirochætæ and the Spirochæta refringens. Rabbits sensitized with the orchitis pallida show the allergic skin reaction to the cultivated pallida extract (luetin) as well as to the tissue pallida extract. They do not react to the extracts of dentium or refringens. These phenomena complete the chain of proof.

Noguchi goes into detail with reference to the differentiation of the pallida and certain morphologically and culturally allied species. From the morphologic and cultural side, confusion is possible, but fortunately we can now avail ourselves of indirect methods or identification—by the phenomena of immunity and anaphylaxis.

Noguchi lays down the following points as necessary for the identification of the Spirochæta pallida in cultures. 1. Correct morphology. 2. Non-putrefactive odor. 3. Requires fresh tissue for growth. 4. Its extract or emulsion must fix complement with immune serum. 5. Its extract must give an allergic reaction. 6 Must be pathogenic. The last point is not absolutely necessary, as a strain under cultivation may become attenuated.

The author calls attention to certain morphologic and pathogenic variations in different strains of the pallida. A table is inserted showing points of differentiation of spirochætæ. The subject of allergy in syphilis is taken up and the luetin reaction as originated by Noguchi, comprising the phenomena caused by the intradermal injection of an extract of the pallida, is entered into with some detail. The normal or negative reaction consists of a small erythematous area

at the injected site. Three types of positive reactions occur—a. papular, b. pustular, c. torpid. The papular begins in 24 to 48 hours, increases for 3 or 4 days and recedes and disappears in a week. The pustular lesion is an extension of the papular reaction. The pustule forms on the papule about the 5th day. In the torpid form the injection sites almost fade away within 3 or 4 days, but suddenly light up again after 10 days or even longer and progress to the pustular. From Noguchi's limited observations the allergic condition of the skin persists as long as the infecting agent survives.

With reference to the Wassermann reaction, the so-called antigens are present in the lipoidal substances of the tissues and are not necessarily derived from spirochætæ as formerly assumed.

Noguchi has endeavored to ascertain to what extent the Spirochæta pallida plays the rôle of the so-called antigen in the Wassermann reaction. In order to study this point antigen was prepared from spirochætæ by two different modes of cultivation—one from testes of rabbits and the other in artificial culture media. From the results obtained it may be said: 1. The fixation produced by the "culture pallida" antigen with certain syphilitic sera is caused by the specific antibodies contained in the latter and may constitute a specific diagnostic method for syphilis. 2. The fixation caused by the testicular extracts usually behaves like the "culture pallida" extracts, but when the sera (syphilitic or leprous) contain abundant lipotropic substances they may also give a positive Wassermann, which is not the case with the culture pallida antigen. 3. The Wassermann reaction is caused by the lipotropic substances, but not by the antibodies which combine specifically with the pallida antigen. The amount of antibodies detectible by the pallida antigen may be very small. Patients react differently in the production of antibodies and it may be of immense prognostic importance to check a patient from the beginning of infection by the complement fixation test with the pallida antigen, thereby determining his resistance against the disease.

A Case of Extensive Pigmented and Hairy Nævus of the "Bathing Trunk" Type, Presenting Genital Tumors. Howard Fox, p. 1190.

Fox reports an interesting and extensive case of "hairy nævus" in a girl 4½ years old. About one-half of the body was covered with pigmented and hairy lesions. The lower two-thirds of the trunk and upper three-fourths of the thighs were involved. In addition, small tumors about the labia gave a deceptive resemblance to testicles, but the genitalia were otherwise normal and characteristic of the female. Fox has found in the literature reports of 25 cases of the peculiar "bathing trunk" type of nævus. Of these patients, 12 were females and 13 were males—the sex of one was not stated. In 10 of these cases, tumor masses described as firm, elastic or lipomatous tumors, have accompanied the nævus. Hyde called his case, on account of the prominence of this feature, "nævus lipomatodes." In Möller's case some of the tumors were found to be sarcomata, while Thienel's case developed carcinoma in the growths, at the age of forty. Treatment of some of the lesions by means of nitric, or carbolic acid or solid carbon dioxide has caused improvement. A photograph of the case is appended.

(*Ibidem,* April 27, 1912, lviii, No. 17).

Angioneurotic Œdema—A Series of Cases with Clinical Observations. Harry I. Wiel, p. 1246.

Wiel reports five cases of angioneurotic œdema in which the relationship of this dermatosis to visceral trouble was probable. Case 1 represented angioneurotic

œdema, urticaria, erythema and allied eruptions in a psychasthenic with luetic history, gastro-intestinal trouble and gonorrhœa. Case 2 presented the same dermatological features in association with severe abdominal colic. The colic was subsequently revealed as of gall-stone origin and after removal of the stones by operation the patient made a remarkable recovery. Case 3 had a dermatosis similar to Cases 1 and 2, and colic of obscure origin. Case 4 occurred in a subject having multiple neurofibromatosis and tuberculosis from which he died. Case 5 was similar to Case 3.

Wiel recommends in the treatment of the skin condition a mixture of anesthesin one part, zinc oxide one part, lime water eight parts and oil of sweet almonds sixteen parts. He regards it as probable that a toxæmia often of intestinal origin, is the cause of these dermatoses.

Acne Vulgaris Treated by Autogenous Vaccines. Report of One Hundred Cases and Method of Procedure. Orvall Smiley, p. 1274.

The size of, and interval between, the doses and the general condition of the patient must be considered in using vaccines. Smiley's theory of acne is that the acne bacillus or its toxine causes the comedone, while the acne pustule is the result of secondary infection with pus-forming organisms—staphylococcus albus, aureus and citreus—usually the first mentioned. The method of preparing the vaccines is given. While no rule can be laid down, from 100 to 150 millions of staphylococci are injected as the initial dose and this is increased by the addition of one-eighth or one-fourth of the initial dose every other day until a response is elicited.

The acne bacillus vaccine is given simultaneously but separately, but the dose is not mentioned. As accessory treatment, the coagulability of the blood is watched and modified—sodium citrate lessening and calcium citrate increasing the coagulability. The diet is not modified unless it is particularly faulty. The comedones are treated mechanically. Later, massage of the face is employed. Smiley can promise a cure in every case where the patient can be controlled.

(*Ibidem*, May 11, 1912, lviii, No. 19).

The Pathogenesis of Placental Syphilis (A Preliminary Report). Martin F. Engman, p. 1415.

Engman states that it is improbable that the father can infect the fœtus in utero. Spirochætæ have been found in the ova of congenital syphilitic infants, but the force of this observation is lessened by the knowledge that they are found in almost every tissue. Neisser's inoculations of syphilitic human semen were negative, while Finger and Landsteiner succeeded twice. In one of the latter's cases, however, there was orchitis, while contamination with spirochætæ was possible in the other. It seems improbable that the spermatozoa contains the spirochætæ, but they may be free in the semen. Uhlenhuth and Mulzer have demonstrated spirochætæ in rabbit semen by inoculation of a rabbit's testicle. The dermatologist must solve the question. The large majority of mothers, apparently healthy, who give birth to syphilitic children show a positive Wassermann. Admitting that the mother is syphilitic, how does she receive her inoculation? From the embryo or through epithelial inoculation? This is undecided. Engman believes that the mother is latently syphlilitic. Free spirochætæ are carried by the circulation into the growing placenta. Further investigations must be awaited, however, before this theory is proven.

A New and Efficient Method of Cultivating Bacillus Lepræ from the Tissues, with Observations on the Different Strains of Acid-fast Bacilli Found in Leprous Lesions. Charles W. Duval and Creighton Wellman, p. 1427.

In the cultivation of acid-fast bacilli from leprous lesions, Duval and Wellman noted that the Hansen bacillus multiplied in great profusion whenever the extraneous germs digested or softened the bits of infected tissue which had been transferred to the culture medium. The fact was established that the multiplication in vitro of the acid-fasts was the result of a hydrolytic action on the protein with the appearance of digestion products which formed the necessary nutrient for the lepra bacillus. The use of an extract of mammalian placental tissue as a nutrient was then tried in cultures as this tissue is rich in the amino-acids, one of the split products of protein digestion. The technique of the preparation of the extract is given. Not only the initial culture, but subsequent transplants of Bacillus lepræ flourish on this medium. Differences in biologic features of different strains have been noted and the results of studies of these will be communicated later.

(*Ibidem,* June 1, 1912, lviii, No. 22).

The Occurrence of a Positive Wassermann Reaction in Cases of Lead Poisoning. Cyrus W. Field, p. 1618.

Of twelve cases of lead-poisoning subjected to the Wassermann test, eight gave a positive and four a negative reaction. Two of the positive cases had, however, histories suggestive of syphilis. A third case died in coma and no history was obtained. In the other five positive cases, nothing suggestive of syphilis was found and the belief is entertained that lead poisoning itself may cause a positive Wassermann.

A Simple Stain for the Spirochæta Pallida. Ruth Tunnicliff, p. 1682.

Tunnicliff has found that the organism stains readily, usually in two or three seconds, with a 10% mixture of a saturated, alcoholic, gentian-violet solution in 5% phenol.

(*Ibidem,* June 22, 1912, lviii, No. 25).

The Shortcomings of Dermatology. Charles J. White, p. 1915.

In the chairman's address before the section on Dermatology of the American Medical Association, White calls attention to the difficulties which beset the dermatologist. The cleverness of the clinical dermatologist has sometimes resulted in over-elaboration of nosological subdivision. White suggests as remedies: (1) an international tribunal which would decide questions of nomenclature; (2) the scientific measurement of skin lesions instead of the present code of rough comparison to familiar objects; (3) a committee to which new dermatologic productions could be forwarded; (4) a dermatologic index medicus. The author regrets that the histopathology of many skin diseases has not been advanced to the point where one can differentiate with certainty by the microscope some of our most common dermatoses. More important still, when the clinician fails, the microscope, too often, gives little help.

From an ætiologic standpoint our knowledge is still meager as to the cause of many of our most common dermatoses although, happily, dermatology in common with other branches has advanced with the discovery of microörganisms.

Therapeutically, dermatologists are probably as successful as the practitioners of other specialties, but they should not be content. Financial resources and investigators are needed. Science progresses slowly as the result of arduous work which dermatologists must perform if real advance is to be made.

The Treatment of Syphilitic Diseases of the Nervous System with Salvarsan.

Joseph Collins and Robert G. Armour, p. 1918.

Collins and Armour state that the inadequacy of mercury as a cure for syphilis is attested by the occurrence of syphilitic nervous diseases. Cases well treated with mercury have developed nervous diseases as early and as severely as those without treatment. Whether salvarsan is a cure for syphilis must be answered by the neurologist. Only data from vast clinical material can serve as a guide and these are now being collected. The present paper discusses the results of eighteen months' experience with 75 cases of syphilitic nervous disease. Interesting data on the cerebrospinal fluid in organic nervous disease of syphilitic origin are given. From a therapeutic standpoint it is of the greatest importance to distinguish between tabes in the exudative and in the degenerative stage. Only the cases dependent on a pathologic process in the spinal cord attended by a profound lymphocytosis are benefited and perhaps cured.

The dose of salvarsan in syphilitic nervous diseases should be a full one (0.6 gm.). If no improvement occurs in two weeks the dose should be repeated. Even a third or fourth dose may be given after an interval. The technique of the administration is given. Twenty cases were injected intramuscularly and 55 intravenously. The results of the use of salvarsan are given in detail in a table which for want of space is omitted. Epitomized, 36 cases of tabes were treated, 22 showed striking improvement. Nine cases of paresis were treated with great improvement in all. Nine cases of meningomyelitis showed great improvement. Of 6 cases of cerebral endarteritis, only 2 were profoundly improved. Three out of 7 cases of brain syphilis (infections of meninges or brain substance) showed great improvement. One of the 3 cases of spinal meningitis recovered. Full details may be had in the table. The authors are convinced that salvarsan treatment is far more satisfactory than treatment with mercury in syphilitic nervous diseases.

California State Journal of Medicine.

(October, 1911, ix, No. 10).

Abstracted by Louis Chargin, M.D.

Treatment of Nævus Vascularis by the Use of Carbon Dioxide Snow.

D. Freidlander, p. 408.

Carbon dioxide snow by refrigeration causes a sharply defined inflammatory reaction. It attacks not only all the layers of the skin but also the cells of the subcutaneous tissue. Such tissues as may be of low vitality may be readily destroyed by the reaction, which need not be so severe as to destroy the healthy cells. It can thus produce sufficient irritative action on the vascular tissue of an angioma to cause a partial or complete endarteritis, leaving sufficient epidermal cells to restore, to all intents and purposes, a sound skin. Various statistics are quoted of the cures obtained, the best results being where the blood vessels lie in the skin. The contraindications are few (alcoholics, diabetics and arteriosclerosis) and the bad results negligible. In conclusion the author

says: "We have in carbon dioxide snow a simple, effectual, comparatively painless, bloodless and certain agent which is far preferable to any other remedy (radium, liquid air, cautery, etc.) in point of rapidity, ease of execution and tolerance on the part of the patient. Furthermore, the cosmetic results cannot be excelled."

New York State Journal of Medicine.

(March, 1912, xii, No. 3).

Abstracted by Louis Chargin, M.D.

The Diagnosis of Syphilis. W. W. Guinton, p. 138.

This paper calls particular attention to the confirmatory and diagnostic aid laboratory methods may now give us.

(*Ibidem*, April, 1912, xii, No. 4).

The Dangers of Salvarsan. N. W. Wilson, p. 183.

There can be no question that in the first flush of experimentation all that was hoped for in the new remedy appeared to have been achieved. The demand for the remedy became an international hysteria and here, the author says, was born one of the initial dangers of salvarsan: the over-riding of science by commercialism. It was made a public necessity before its scientific worth had been established. There soon came reports of recurrences after, then of accidents attending its use. There has been no decrease in these reports. One of its chief dangers is its use in early specific myocarditis, a condition not readily diagnosticated. The effect upon the nerves and its inefficacy in tertiary liver lesions must be remembered. When carelessly used there are dangers of thrombosis and lymphangitis. Then there is danger of nephritis, icterus, hæmaturia, kidney necrosis, etc. These dangers are not necessarily immediate. The above he terms the purely physical dangers. The more serious is the social danger. The reports that a single treatment would eradicate the disease resulted in unjustifiable hope. The result has been the rearing of a great social danger: "A structure which shall fall upon the future generations." The acceptance of salvarsan as an absolute specific was and is unwarranted. Unless there be more serious consideration of the uses and limitations of salvarsan, the next five to ten years will bring forth children bearing the ear-marks of hereditary syphilis. We have not yet witnessed the dawn whose day shall see syphilis swept from the earth. Salvarsan is useful. We may say that, but no more at the present time.

BOOK REVIEW.

Pellagra, An American Problem. By George M. Niles, M.D., Professor of Gastro-enterology and Therapeutics, Atlanta School of Medicine; Gastro-enterologist to the Tabernacle Infirmary, Atlanta Hospital, and Atlanta Anti-tuberculosis Association; Attending Physician to the Tabernacle Infirmary Annex (for Pellagra), Atlanta, Georgia. 253 pages, illustrated. Philadelphia and London, *W. B. Saunders Company*, 1912. Cloth, $3.00 net.

It will be time profitably spent for the general practitioner and specialist to read this work. The author deals with the subject in a methodical, systematic and thorough manner, which is easily understood, and which makes interesting reading aside from its scientific aspect. Niles is a strong supporter of the spoiled

corn causation of the disease, expressed by Lombroso's theory: "In pellagra, then, we are dealing with an intoxication produced by poisons developed in spoiled corn through the action of certain microörganisms in themselves harmless to man." Considerable space is devoted to the subject of classification of the various stages of pellagra, the author being in favor of recognizing three stages, as suggested by Babes and Sion: 1. The prodromal or preërythematous stage; 2, a stage in which there are erythema, more or less gastro-intestinal disturbances and vague symptoms of peripheral nervous disquietude; 3, a stage of deep depression, bodily and mental, with accompanying cachexia. "As emphasized by Dr. Babcock, it is well to recognize from the start that pellagra is a trophoneurosis." Of especial interest to the dermatologist are the photographic reproductions of pellagrous patients, giving a very good idea of the cutaneous aspects of the disease.

The book is printed in large type and, aside from a few minor grammatical errors, is well put together.

F. W.

BOOKS AND REPRINTS RECEIVED.

Books marked with an asterisk will be reviewed.

BOOKS.

***Diseases of the Skin and the Eruptive Fevers.** By Jay Frank Schamberg, A.B., M.D. Second edition. *W. B. Saunders Company,* 1911, Philadelphia and London.

***Die Vasomotorisch-trophischen Neurosen.** Von Dr. R. Cassirer. *S. Karger,* Berlin.

Beiträge zur Chemotherapie der Tuberkulose. Nach den Vorträgen von Prof. Dr. Gräfin, Prof. Dr. E. Meissen und Dr. A. Strauss. Sonderdruck aus "Beitrage zur Klinik der Tuberculose," herausgegeben von Prof. Dr. L. Brauer, xxiii, Heft 2). *C. Kabitzsch,* Würzburg, 1912.

Gesammelte Werke von K. G. Lennander, im Auftrage der Universität zu Upsala. Unter Mitwirkung von Dr. K. H. Giertz, Prof. Dr. K. Petrén, Dr. A. Petterson, Doz. Dr. F. Zachrisson und Prof. Dr. H. Ohrvall. Herausgegeben von Dr. G. Ekehorn. *Almqvist & Wiksells Boktryckeri* —A. B., Upsala und Stockholm, 1912.

***Lehrbuch der Haut—und Geschlechts—krankheiten.** Herausgegeben von Prof. Dr. E. Riecke. *Gustav Fisher,* Jena, 1912.

***Etude sur la syphilis post-conceptionnelle et l' hérédité syphilitique.** Par le Dr. Jean Bobrie. *Société générale d'imprimerie et d'edition levé,* Paris, 1912.

***La stérilisation de la syphilis.** Par le Dr. Leredde. *A. Maloine,* Paris, 1912.

***The Treatment of Diseases of the Skin.** By Dr. W. Knowsley Sibley. *Longmans, Green & Co.,* London and New York, 1912.

***Compendium of Diseases of the Skin.** By Dr. L. Duncan Buckley. *Paul B. Hoeber,* New York, 1912.

***Recent Methods in the Diagnosis and Treatment of Syphilis.** By Dr. Carl H. Browning and Dr. Ivy McKenzie. *Lea & Febiger,* Philadelphia and New York, 1912.

Home Hygiene and Prevention of Disease. By Norman E. Ditman, M.D. *Duffield & Co.,* New York, 1912.

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The Precancerous Stage. Parker Syms, *New York State Jour. Med.*, Sept., 1911.

Report on a Case of Congenital Cavernous Angioma of the Neck. Andrew J. Gilmour, *Med. Rec.*, Oct. 7, 1911.

A Case of Pemphigus Vegetans. George Pernet, *Brit. Med. Jour.*, Sept. 24, 1910.

An Unusual Case of Toxic Dermatitis, with Remarks on Symmetrical Eruptions. George Pernet, *Brit. Med. Jour.*, Dec. 17, 1910.

A Severe Complicated Case of Syphilis in Which Three Different Secondary Eruptions Occurred in Succession. George Pernet, *Arch. f. Dermat. u. Syph.*, 1911, cvii, No. 1.

Bullous Ichthyosis. George Pernet, *Brit. Jour. Dermat.*, Nov., 1911.

A Case of Pemphigus Vegetans Treated on General Lines and by Means of Vaccines. George Pernet, *Arch. f. Dermat. u. Syph.*, 1911, cx, No. 3.

Pemphigus and Dermatitis Herpetiformis. George Pernet, *Brit. Jour. Dermat.*, Jan., 1910.

Ueber moderne Syphilistherapie mit besonderer Berücksichtigung des Salvarsans. Geh. Med.—Rat Prof. Dr. A. Neisser. Sammlung zwangloser Abhandlungen aus dem Gebiete der Dermatologie, der Syphilidologie und der Krankheiten des Urogenitalapparates mit besonderer Berücksichtigung der Allgmeinen ärztlichen Praxis. Herausgegeben von Prof. Dr. J. Jadassohn. Band i, Heft i.

Ueber Sulfoform, ein neues Schwefel-präparat. Max Joseph. *Dermat. Centralbl.*

Ueber Sulfoformöl. Walter Schneider. *Dermat. Centralbl.*

Familial von Recklenghausen's Disease. J. D. Rolleston and N. S. MacNaughton. *Rev. Neurol and Psych.*, Jan., 1912.

A Case of Framboesia. Chas. J. White and Ernest E. Tyzzer. *Jour. Cutan. Dis.*, March, 1911.

A Summer Service in the Weld Ward of the Massachusetts General Hospital. Chas. J. White. *Boston Med. and Surg. Jour.*, May 4, 1911.

Analysis of Treatment of Sixty-two Cases of Syphilis with Salvarsan. Louis Gross and Walter Johnson. *California State Jour. Med.*, Jan., 1912.

Multiple Hereditary Telangiectasis of the Tongue, Turbinates and Septum, with Recurring Hæmorrhages. C. D. Van Wagenen. *Med. Rec.*, Jan. 20, 1912.

The Relation of the Specialist to the General Practitioner. William S. Gottheil. *Med. Jour.*, New York, March 2, 1912.

Nerve Syphilis from the Viewpoint of the Practitioner. William S. Gottheil. *Postgraduate*, April, 1912.

Blue Atrophy of the Skin from Cocaine Injections. William S. Gottheil. *Jour. Cutan. Dis.*, Jan., 1912.

Studies Upon Leprosy. The Artificial Cultivation of the Bacillus of Leprosy. Attempts at Specific Therapy in Leprosy. Donald H. Currie, Moses T. Clegg and H. T. Hollmann. Public Health Bulletin, No. 47. Treasury Department. Public Health and Marine-Hospital Service of the United States, Sept., 1911.

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EDITORIAL

TEACHING OF DERMATOLOGY.

It has become evident to medical teachers that with our present four-year medical course only the essentials of medicine can be taught, and that these essentials should be well grounded whatever field of medicine the student may subsequently elect.

What constitutes the essentials of medicine may be an open question which should be studied from various points of view. Certainly the surgeon who persists in excising syphilitic gummata or the physician who treats impetigo by the internal administration of arsenic, has not been on sufficiently intimate terms with the essentials of medicine.

There can be no doubt that dermatology enters into the essentials that every family doctor should know. As to how much dermatology it is advisable to attempt in a four-year course individual opinions may differ; the amount to be undertaken, however, is usually in an inverse ratio to the experience of the teacher. Many who become general practitioners of medicine do not pursue systematic study after graduation and they consequently should be sufficiently grounded in dermatology to be able to render aid to their patients; they should be able to differentiate between the simpler and the more obscure or virulent affections; they should know their limitations and have the welfare of the patient sufficiently at heart to seek expert aid when these limitations have been reached. Experience teaches that the latter is found mainly in the better grade of practitioners and that many seem incapable of reaching this high plane. It is incumbent on the teacher, therefore, to endeavor to stimulate the greatest enthusiasm in this department of which the student is capable.

It must be apparent to all teachers of dermatology that the study might be greatly simplified. The ancient nomenclature now employed, while of interest to the special worker, does not tend to elucidate the subject to the student, whose time is limited, and who can only hope to attain a minimum amount of special training compatible with his high calling. This subject has recently been considered by Dr. C. J. White (*Journal American Medical Association,* lviii, No. 25).

Further illustration might be given of the coccogenous or pus affections of the skin. Instead of impetigo (from *impetere*, to rush upon) with its numerous subdivisions in which ecthyma (from ἔκθυμα a pustule, or ἐκθύω, I burn out), sycosis (σῦκον, a fig), pustular folliculitis, furunculosis (*furunculus*, a petty knave), and carbunculus (*carbo*, a live coal), might be grouped under some appropriate and more significant head. The same applies to the mycotic group which clinically presents variations which have long been recognized, but to Sabouraud mainly are we indebted for the rich harvest of plant life now differentiated from what at one time was known as ringworm. Nor is this differentiation unimportant, but only by special post-graduate study can such accomplishment be attained.

To one who desires to devote himself to dermatology the proper time to begin such special study is after finishing an interneship in a general hospital, which should be not less than one year's duration. He may then be considered to have a safe foundation to build upon. The next two years should be devoted mainly to laboratory work under a competent instructor with attendance on clinics for skin diseases during this time. At the end of this period he should have sufficient training to be able to follow such lines of research as may have been started or that may present themselves as his clinical work develops.

William T. Corlett, M.D.

PELLAGRA.*

By Oliver S. Ormsby, M.D., Chicago.

Introduction.

THE paper here presented is a brief abstract of work done by the Pellagra Commission† appointed in 1909 by His Excellency Governor Charles S. Deneen to investigate the disease as it is exhibited in Illinois.

The clinical and pathological work was done by Dr. H. Douglas Singer and myself; the bacteriological work by Dr. W. J. McNeal, of the State University; the enormous work relative to diet and all its problems by Professor H. S. Grindley; the anaphylactic tests by Dr. Arthur D. Hirschfelder, of Johns Hopkins; the special work relative to amœbæ by Captains J. F. Siler and H. J. Nichols, U. S. Army; the complement fixation tests by Dr. J. Frank Waugh, and an important feeding experiment by Dr. Rachel Watkins. To our great sorrow, we lost the service of Dr. H. T. Ricketts, who died a martyr's death in Mexico, just after beginning work with this Commission. We cannot help but feel that had we had his invaluable aid, much more important findings would have been recorded.

History.

For the purposes of this paper, it will be entirely unnecessary to go deeply into the history of this phenomenal disease. The following paragraph, quoted from an article written by our late colleague, Dr. James Nevins Hyde, will indicate the wide distribution of the disease:

"Frapoli of Milan, in 1771, is commonly reported as first to have given the name to the disease by which to-day it is most commonly known; but, in fact, he merely reproduced a title current among the people of his day, 'morbus vulgo, pellagra.' In the long list of authors who followed, from Strambio, Mazari, Alibert, Rayer and Raymond, to Lombroso, Sandwith, Babes and Sion and Sir Patrick Manson, can be traced the progress of the disease in Europe, from Spain to Southern France, Northern and Central Italy, Corfu, Upper Egypt and other parts of Africa, Austria, Servia, Bulgaria, Roumania, and Asia Minor, India, New Mexico, Barbados, and portions of North and South America."

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Dr. J. L. Greene, Vice-President.
Dr. Oliver S. Ormsby, Secretary.
Dr. George W. Webster.
Dr. H. S. Grindley.
Dr. Howard T. Ricketts.
Dr. H. Douglas Singer.
Dr. W. J. McNeal.

The disease was first recognized in the State of Illinois in the Cook County institutions at Dunning, in June, 1909. The diagnosis, first made by Dr. L. J. Pollock, was reported to Dr. W. A. Evans, Health Officer of Chicago, and was confirmed at his request by Past-Assistant Surgeon C. H. Lavinder, of the Public Health and Marine Hospital Service, in July. Shortly afterward, cases were recognized in the Peoria State Hospital and at the Elgin and Kankakee State Hospitals. The diagnosis once made, the managing officers and medical staffs at the above institutions were able to recall instances of exactly similar eruptions in the past, although it was, of course, impossible to gather any figures which would give an idea as to the actual number of cases. The subsequent history of the disorder to date is most interesting, from the fact that the institutional cases are becoming fewer, while outside cases are increasing in number. This will be represented in figures later. We have, however, sufficiently accurate figures to state that the number of cases recognized in Illinois is about five hundred. This includes only new cases and not recurring attacks.

Clinical Description.

The description of the disease which follows is taken from cases seen here, no attempt being made to follow European descriptions. The symptoms naturally fall into three main groups. In the order of their importance, these are as follows: those occurring in the cutaneous, in the gastro-intestinal, and in the nervous systems.

Cutaneous System. In a study of more than two hundred patients, the manifestations exhibited on the skin were sufficiently characteristic to enable one to make a diagnosis of the general condition. In general, the symptoms corresponded to the cases described abroad; in Italy and other countries. It can hardly be said, however, that they were exhibited in the stages which have artificially been made in European cases. Rather than being stages of a disorder, they appeared to exhibit degrees of activity of the process. The arrangement of the lesions was characteristic. In the major portion of the cases the dorsa of the hands, the wrists, and some part of the face, neck or scalp were involved. The disease only occasionally involved the feet or ankles, areas which were so often affected in the European cases. In a large number, the lesions occurred on the arms and chest; in a smaller percentage the ears and other parts of the body were involved. In a very few, the inflammatory process involved the palmar surfaces

of the hands, and occasionally the eruption was generalized. The peculiar collar described abroad, while seen here occasionally, was not common. In the case of several women, quite a severe dermatitis occurred about the vulva and involved the mucous membrane of the vagina. The lesions were always symmetrically placed and ran through a pretty typical course. In the major portion, the distribution on the hands was as follows: a solid area extending over practically the entire dorsal surface of the hand, involving the fingers to the knuckles, also the wrist on the extensor side for a distance of about two inches. In the latter area it would frequently sweep around and involve about two-thirds of the flexor surface, then come to an abrupt ending. This partial gauntlet was interesting and occurred frequently. In the most moderate degree of erythema, the process went through about the following course: large macular lesions, light or dark red, would appear, which soon fused, forming a patch of dermatitis almost identical in appearance with that caused by the sun. After a period of from seven to fourteen days or a little longer, desquamation would begin, at which time a roughened, scaling surface was presented. Early in the process, moderate to marked swelling was usually present. No subjective sensations were complained of. That none was present was manifest by the absence of any sign of interference on the part of the patient. In some patients, pigmentation occurred, while in others, after desquamation was complete, the area was lighter than formerly. In the more active cases, on the erythematous base, bullous lesions would soon develop. Some of these were very large. After several days, they would gradually dry, leaving a thickened, crusted epidermis. Secondary pyogenic infection not infrequently followed in the vesicular and bullous cases. In many, the œdema was sufficient to produce fissures to quite a marked extent. The lesions, whether erythematous or bullous, were always well defined. It was particularly noticeable that after the bullous lesions had cleared, the skin was somewhat thinner than formerly and there was no hyperpigmentation. In the older patients, where the process was subacute, the areas presented the appearance of a simple chronic dermatitis with marked hyperpigmentation. The atrophy described in chronic cases in Europe was present to a slight degree only. Loss of pigmentation did occur, but true cutaneous atrophy has been uncommon. That sunlight played a part in producing or determining the location of lesions was demonstrated by having suspected patients wear fenestrated gloves, when the eruption would be largely limited to the exposed surfaces.

We have, however, seen many patients exhibiting typical lesions occupying the hands and other usual areas who were not exposed to the direct rays of the sun at any time. Bedridden patients developed lesions in the same situation as those able to be out of doors. That the cutaneous lesions resemble an ordinary sunburn was frequently emphasized by reports of attendants stating that certain patients were suffering with sunburn, which on examination proved to be a pellagrous erythema. The importance of the cutaneous symptoms is at present paramount for without them a diagnosis can rarely be made. It is probably true that the disease may occur without these symptoms, but in the present state of knowledge they are essential in arriving at correct conclusions.

Gastro-Intestinal System. The symptoms referable to this system unquestionably stand next in importance to the skin lesions, and are present in a very large proportion of all cases. They seem to be especially marked in all of the more severe examples. They cannot, however, be regarded as characteristic, inasmuch as very similar manifestations are met with in other disorders. We would hesitate to base a diagnosis upon them in the absence of typical skin lesions. The tongue becomes swollen and denuded, presenting a dry, red appearance, with, in severe cases, more or less superficial ulceration along its edges and upon its under surface, and yellowish sloughs, which bleed easily. The buccal mucous membrane where it comes in contact with the teeth also shows in the more serious cases a similar appearance. The whole condition presents features that resemble the aphthous stomatitis seen in other debilitated states, particularly in children, but also in adults, as, for example, in pemphigus. The ulcers are very superficial, and in the event of recovery, heal without scar formation. The mouth lesions are painful and render the taking of food difficult. In the milder cases, there is usually nothing more to be seen than a redness and smoothness of areas, especially at the tip and along the margins, which has received from Sandwith the name of "bald tongue." Repeated scrapings from the sloughing surfaces have never shown the presence of mycelial growth.

Diarrhœa has also been a very constant concomitant, being as a rule severe in fatal cases. In the milder cases, close questioning may be necessary to find that there has been a looseness or excessive action of the bowels, and we have in some instances been unable to obtain any evidence of this symptom. In this connection, it must be

remembered that the major portion of the cases worked with had little information to give. Nevertheless, it is recalled that in some there has been either no change or that the bowels have even been constipated. The appetite may be normal, and in some cases increased, especially in relation to the actual digestive capacity. In severe cases, it is poor. The stools have often shown undigested food, both animal and vegetable. In one case kept upon a milk diet, curds were found in the stools. More or less mucus is constantly present, and at times red blood cells. The odor is peculiar and very disagreeable, and results apparently from putrefactive changes. The bacteriological examination is mentioned later.

Mental and Nervous System. The classical descriptions of pellagra give a somewhat vague account of the symptoms due to involvement of the nervous system, particularly in regard to the mental picture. The material at our disposal is, unfortunately, almost entirely unsuited for a study of this question, since almost all cases have arisen in patients suffering already from mental disorder and presenting more or less evidence of interference with the projection system. In most instances, the records of previous examination of the nervous system are almost entirely lacking, and it is hence impossible to decide which, if any, of the present manifestations are due to pellagra. In private cases seen by individual members of the Commission in whom no previous disease existed, there was no evidence of gross lesion of the nervous system except in the final stages. At this time there have developed in many cases the symptoms of central neuritis, and this is a point which must be regarded as worthy of more than passing mention. From our personal experience, we do not feel justified in making any very definite statements regarding the nervous and mental symptoms of the disease. It has seemed that in the projection system there are no characteristic changes until the final stages, when there is great liability to occurrence of central neuritis.

In regard to the associative system of the brain, our observations would suggest that there is a liability to occurrence of deliria similar to those seen in other infective and toxic states. Apart from this acute condition, which is to be regarded only as a type of reaction on the part of the brain to acute intoxication of any cause, there does not seem to be in our limited experience any "pellagrous insanity." The change in disposition, which is not by any means constant, is very similar to that seen in other chronic exhausting diseases, such

as tabes, tuberculosis, etc. In our opinion, it still remains to be proved that pellagra gives rise to any more chronic form of nervous or mental disorder. It does give rise to symptoms of acute intoxication of the nervous system, which symptoms are not in any way characteristic of any particular toxine. Furthermore, like other intoxications, it may act as the exciting cause for an outbreak of acute psychoses in individuals who are susceptible.

There is one further point which seems important, although its explanation is still wanting. This is the great susceptibility of the chronic insane to the disease.

Pathology.

Cutaneous. In a large number of sections studied, the general picture was that of an angioneurotic process, and resembled to a marked extent that seen in multiform erythema. The most marked change was noted in the superficial part of the corium, almost all infiltration occurring in the pars papillaris. The specific findings are as follows: With a low power, the stratum corneum was thickened, the stratum granulosum and rete practically normal. The upper portion of the corium showed inflammatory reaction, and the connective tissue appeared œdematous. With a high power, the hyperkeratosis was seen to be well marked. Here and there areas of parakeratosis were present, as evidenced by the presence of nuclei extending to the upper layer of the stratum corneum. Many pigment granules were present. The rete was practically normal, except in places where its integrity was interfered with by infiltrating cells. In the papillary layer, cellular infiltration was quite marked, particularly in the region of blood vessels. Collagen and elastin were present, the former showing œdematous changes. The deeper parts of the corium were comparatively normal. In parts of the papillary layer elastin was absent.

From a survey of these findings, no specific statement can be made concerning the process. No microörganisms were found. That the process was moderately destructive, was evidenced by the absence of certain structures. As a whole, there appeared to be a reaction on the part of the skin to a local toxic irritant or an angioneurotic process influenced from a distant focus.

The pathological findings made post-mortem may be very briefly summarized as follows:

Nervous System. The nervous system presents a picture of axonal chromatolysis, involving especially the Betz and larger pyramidal cells of the precentral convolutions and the cells of the nuclei in the cerebellum, pons, medulla and cord, as well as the posterior root and sympathetic ganglia. Besides these changes, numerous cells in most cases show a marked pigmentary degeneration of a fatty nature, similar to that found in the senile nervous system and in some other conditions. With this there is but little evidence of connective-tissue reaction, and the absence of infiltration of the perivascular sheaths is especially emphasized. In some cases there is more or less overgrowth of glia cells along the vessels and around the nerve cells, a picture apparently identical with that published by Spiller and Anderson and others in cases of pellagra, but it is also strikingly similar to the picture of central neuritis. The latter condition, like peripheral neuritis, is not regarded as a disease *sui generis*, but merely as a type of reaction on the part of the nervous system, capable of being produced by various harmful agents.

In a personal communication to Dr. Singer, Dr. Adolf Meyer, who described this disease, writes that he is not surprised to hear that such changes occur in the terminal stages of pellagra.

The liver has been constantly the seat of small islets of a low-grade inflammation of the portal connective tissue lying in the interlobular septa. The intralobular capillaries are engorged; in most cases there are small blood extravasations. The liver cells have undergone fatty degeneration, which is in some instances remarkable, and the change is distributed in every case in the periphery of the lobule. This, in the absence of any marked cirrhosis, at once suggests that there may have been some toxine circulating in the portal blood stream. Some specimens even suggest a picture of a very early stage of acute yellow atrophy or the more acute forms of alcoholic cirrhosis.

Intestinal ulceration has been present in half the cases examined. This has not the acuity of an amœbic infection, and no amœbæ have been found in the walls. Even where no ulceration was found, a low-grade infiltration of the mucosa and submucosa has been present in places. These findings are certainly of interest in relation to the condition of the liver.

The kidneys showed degenerative changes in the renal epithelium, and in all cases more or less interstitial nephritis, in spite of the fact that the ages of some of the cases are certainly not great. Engorgement of capillaries with small hæmorrhages is also frequent.

The spleen shows some fibrous overgrowth and small hæmorrhages.

Pigmentary changes are present in the heart muscle at an age which is below that in which they are usually found.

In some cases, hyaline changes in the intima of the blood vessels have been marked, but this is not constant.

All these appearances suggest the presence of some toxic substance in the blood. One may go even further, and from the changes in the intestine, and particularly in the liver, suspect that this toxine originates in the intestine and enters the circulation by way of the portal system. The great frequency of gastro-intestinal symptoms during the clinical course of the disease might be regarded as pointing in the same direction. There is always, however, to be borne in mind the possibility that these changes may be secondary to the pellagra. That is to say, that as the result of the gross disturbances in metabolism and vital resistance which accompany the disease, there may follow a secondary invasion of the intestinal tract with organisms which then give rise to the changes found, by virtue of the toxines elaborated during their growth. Secondary changes such as this would be quite in accordance with those found in other diseases.

When, however, we look for evidences of the localization of a blood-borne parasite in other parts of the body, we find entirely negative results. The nervous system does not present any features similar to those found in such diseases as trypanosomiasis or parasyphilis. The absence here of any focal changes and of perivascular infiltration is strikingly different from the conditions found there. The picture presented is much more that of a diffuse toxic state than of one due to a blood infection. The only tissues in which there seemed to be any focalization of lesion were in the intestinal wall and the liver. In the study so far made on the nervous system there is nothing to support the suggestion of Long that the nerve roots are pressed upon as they pass through the intervertebral foramina. It might also be mentioned that the distribution of the skin lesions does not correspond with that of the posterior roots of the cord. The perfect symmetry so characteristic of the skin lesions is hardly conceivable as the result of any gross nervous lesion, and suggests far more some generalized noxious agent which is capable of a far finer biochemical selective power than could possibly be conceived from pressure or other gross lesion of like kind.

As pellagra is sometimes described as a disease especially involving the nervous system, the above findings are interesting, as they

seem to denote that it is involved only as a secondary process and at a late stage of the disease, in this respect confirming the idea expressed from the clinical study.

Blood. Results of blood examinations in pellagra have been published by many authors without the demonstration of changes constant in character. Points which have chiefly been emphasized in regard to the cytology are the occurrence of a high-color index and an increase in the proportion of mononuclear leucocytes.

In our work, leucocytosis has occasionally been observed, but as a rule it is absent. It must be borne in mind that blood changes are present in patients in the institutions who do not have pellagra; therefore, these statistics are probably not so valuable as those collected outside of institutions. In quite a large number of cases of active and subsiding pellagra, the blood findings averaged as follows: red blood cells, 4,524,864; hæmoglobin, 97 per cent.; white cells, 8,394; differential count: polymorphonuclear leucocytes, 57.22; small and large lymphocytes, 34.22; mononuclear leucocytes and transitional cells, 3.42; eosinophiles, 4.5; basophiles, .67. In only one case of the groups from which this table was compiled was there leucocytosis. In this case it ranged from 16,000 to 20,000. The attack was severe and fatal, and at the autopsy no septic focus was found to account for the blood changes. Apart from this case, all the others have shown a relative lymphocytosis, and there is apparently a diminution in the proportion of large mononuclear leucocytes.

In addition to the blood counts, several weeks were occupied in the careful study of the blood both in the fresh state and after staining by various methods. The fresh blood was examined with direct illumination and the dark-field illuminator. The stains employed have been those of Jenner, Giemsa, Levaditi, and methylene blue. In no specimen has anything been observed which seemed to be in any way abnormal. Large numbers of blood cultures were made from several cases with negative results, excepting in one instance at Kankakee. In this case, a large motile bacillus, which grew freely but somewhat slowly on all media, was obtained. That it was not a contamination seemed to be proven by the fact that the organism was agglutinated by the patient's serum. No clumping was observed, however, with the sera of other pellagrins or healthy individuals, and the bacillus gave no evidence of pathogenicity even in large doses. It was therefore disregarded as being a causative factor in the disease.

Urine. Specimens have been examined repeatedly from the cases. No constant changes have been found, with the exception of a very marked indican reaction, which was present in all and can probably be correlated with the intestinal putrefaction. In a few instances, a trace of albumin and a few hyaline casts have been present. The only striking feature has been the great variability in quantity, color, and specific gravity of the specimens obtained on various days from the same patient. These results only indicate the great disturbance in metabolism, and suggest the advisability of more exact study of the exchanges.

Fæces. The stools of pellagrins are exceedingly variable in character. In general, there is a marked diarrhœa during the acute attack, with frequent watery evacuations, nearly always very foul smelling. Later the stools become less fluid and contain abundant mucus. Blood and epithelial cells are frequently observed in severe cases.

The numerical relationships of the normal forms of fæcal bacteria are more or less disturbed, and new forms of bacteria of several different kinds appear in the fæces in appreciable numbers. Protozoa, especially amœbæ and flagellates, are frequently found.

Cultures of the fæcal bacteria in the various stages of pellagra also indicate disturbances of the normal relationship of the intestinal bacteria. In addition to this, some forms of bacteria not ordinarily found in the fæces of healthy people are found here in appreciable numbers.

There is some evidence indicating that some of these bacterial and protozoal forms play a part in producing some of the pathological changes observed in the cases of pellagra which we have studied. Whether any one of them is a primary factor in the disease itself, or whether they are all secondary invaders, with no essential causal relation to pellagra, cannot be decided from the evidence at hand. For those forms which have been studied more particularly by us, the latter hypothesis seems to be the more probable. Nevertheless, these bacteria and protozoa seem to be worthy of further attention.

In a chemical examination of the right cerebral hemisphere made by Waldemar Koch of the University of Chicago, the fact was demonstrated that the neutral sulphur fraction showed a diminution. This point he had hitherto found only in the brains of individuals

suffering from dementia præcox. This brain was taken from a patient which was kindly given to the Commission by Dr. Pusey.

Course of the Disease.

The great majority of the cases have shown an acute course, with sudden onset, and have arisen for the most part in individuals of poor physique, although some few have been well nourished and apparently healthy. As a rule, the earliest symptoms observed have been those referable to the cutaneous system, the skin eruption upon the hands, with simultaneous or rapidly succeeding soreness of the mouth and more or less diarrhœa. This acute phase lasts for one or two weeks and then gradually subsides, with replacement of the erythema by a thickened, dry, scaling condition of the skin, which lasts for several weeks or even months, during which time desquamation occurs. A certain proportion of the cases has begun with gastro-intestinal symptoms, consisting of chronic and often severe diarrhœa, with more or less stomatitis. The diagnosis in these individuals is difficult. In these instances the eruption appeared suddenly and had generally been severe, with marked bullous formation. These cases have been fatal to an extreme degree, the patient rapidly losing flesh and becoming weaker. It appears that the occurrence of severe mouth symptoms in any case is of grave importance. Exceptions to this have been seen.

Another course which should be mentioned, for the reason that it touches upon the important question as to what constitutes pellagra and when the disease may be considered at an end, is that in these cases the gastrointestinal symptoms are usually severe, and there is consequently progressive emaciation and exhaustion. After a few weeks the skin lesions disappear and the mouth may entirely recover, the diarrhœa becomes less or disappears, and yet the patient does not improve. Without any recurrence of the acute symptoms, there is a gradual decline, with increasing evidence of involvement of the nervous system, until the picture becomes that of a central neuritis, which ends fatally in a short time. In some instances, the symptoms have occurred within a few days of the subsidence of the characteristic pellagra phenomena, or even while they were still present, whereas in others they have been delayed for several months. This condition might be comparable to the post-diphtheritic neuritis. It is usually stated that in most cases after the subsidence of an attack the patient regains his health more or less completely and

may seem entirely well, but with the appearance of the next Spring or autumn there is a recrudescence of the active symptoms. The short time during which cases have been under observation in this State renders it impossible to give any reliable data concerning this question, but it may be stated that many of the cases showing attacks in 1909 and other new ones in 1910 have had no recurrences up to date, although they have been closely watched. Six cases transferred from Peoria to Kankakee for special study, in July, 1910, have had no recurrence up to November, 1911. The private case of Dr. Bacon in Peoria, with recurrence in seven consecutive years, is interesting in this connection.

In addition to the acute attacks, certain patients present a more chronic course in regard to an individual attack. In these cases there is but little constitutional disturbance and the initial erythema is slight. Hyperpigmentation is more marked. The roughness and thickening of the skin, symmetry and definition, however, are characteristic. In some of these the hyperpigmentation causes the skin to become nearly black, and desquamation continues for months.

Diagnosis.

Relative to differential diagnosis, only a word need be said here. Certain forms of dermatitis and erythema multiforme may cause confusion in the mind of the general practitioner. I have even seen a case of mycosis fungoides mistaken for the disease. With a view of increasing our means of diagnosis, work was undertaken relative to the complement fixation test. A large series of tests was carried out by Dr. J. Frank Waugh to determine whether or not a specific reaction was present. The technique employed, as given by him, was similar to that described by Noguchi for syphilis. The antigen used was an alcoholic extract of the liver of a pellagrous patient; another, of the liver from one of the inoculated animals. In a series of 100 pellagrins and about 20 monkeys, the results were suggestive but not conclusive. Further work along this line is indicated.

Ætiology.

The various theories which have obtained relative to the cause of the disease may be subdivided under two main headings: (1) those concerning maize or Indian corn; (2) those alleging other causative agents. The corn theory has been the one most widely accepted in Italy. At the present time it seems to be losing ground.

This theory was advanced by Lombroso and has been widely taken up by the Italian Government. Sambon points out with considerable justice that the Italians have been studying corn rather than pellagra. Various authorities differ in their views as to the nature of the relationship between corn and pellagra.

The anti-zeist regards the disease as a specific infection of the body with a parasitic organism, either bacterial or protozoal in character. Certain investigators believe that the agent is a bacterium of unknown nature and habitat. Others believe it to be due to some variety of amœba. The frequency of concomitant amœbiasis in pellagra has been emphasized by many authors, notably Long in this country. Allesandrini in Italy claims to have found filiarial infection of certain wells in pellagrous districts; while still others contend that the disease is due to a protozoal infection of the blood stream, in much the same manner as malaria and trypanosomiasis. These views are all based upon the supposed resemblance in the epidemiology, endemicity, seasonal occurrence, etc., to these diseases. Some authors also urge in support of this view the results of treatment. Sambon,[1] who is one of the chief exponents of this view, goes to the length of incriminating some species of simulium (the sandfly or buffalo gnat) as being the agent which carries the organism and by biting the human host injects the protozoa into man. It is interesting to know that Sambon formulated this hypothesis, even to the naming of the carrier, as the result of comparative reasoning before entering upon his investigations. The hypothesis is attractive and plausible in many respects, but as yet is not proven.

At the suggestion of the Commission, Professor S. A. Forbes, State Entomologist, undertook an investigation concerning simulia in Illinois. He reported finding large numbers about Peoria and in many other places throughout the State. He states that they are found largely in Illinois in small streams where stems of plants and trailing grasses, twigs, branches, etc., have been washed. Here the larvæ are abundantly present. He reports eight species of simulia in Illinois. In the summer time, about two months elapse between the laying of the egg and the appearance of the young fly, the egg stage lasting one week, the larval four weeks, and the pupal three. In cold weather, the development proceeds more slowly. There appear to be three generations during the year, the first period occurring in April and May, the second the latter part of June and

[1] *Brit. Med. Jour.*, 1905, xi, p. 1272.

July, the third from the middle of August to the last of October. In a general way, the appearance of these gnats has preceded for a variable time the most marked outbreaks of pellagra at Peoria. Exceptions to this occurred in the August to October generations in the years 1909 and 1910, each of these being followed by a decline in the number of cases.

The relation of simulia to pellagra finds but little support from the research we have been able to make. The particular variety, simulium reptans, for which Sambon claims a world-wide distribution, is said by Professor Forbes to be unknown in North America except in Greenland.

Relative to the corn theory, the following feeding experiments are of interest. The first was suggested by Captain J. H. Nichols and was carried out by Dr. Rachel Watkins, house physician at Peoria:

Two cottages, each with a capacity of sixty patients, were filled with non-pellagrous patients of the chronic class. The inmates of one cottage were placed on a generous corn diet, approximately sixteen ounces of corn-food stuffs per day; the inmates of the other were placed on a corn-free diet. These diets were continued for one year. A careful study of the weight and other conditions of the patients was carried on all of the time. The final result of this investigation shows the following interesting features: At the end of the year in the corn-diet cottage, 59 patients had been present all of the time. Out of that number, four developed pellagra and one suspicious symptoms. In the corn-free-diet cottage, 58 patients remained during the year, and out of these five developed pellagra and five were suspicious.

It is evident from this result that an extensive corn diet did not favor the production of the disease.

Many feeding experiments were carried on in animals with negative results.

At the suggestion of the Commission, Dr. Hirschfelder of Baltimore, did some work in anaphylaxis. This was carefully carried out, following the von Pirquet method. Both fresh and spoiled corn was used in this demonstration on pellagrous patients, entirely with negative results.

A very careful study of the diet of patients and of corn received from the various institutions, from the Southern States and from Italy was carried on by Professor Grindley. All manner of fungi were grown on both spoiled and good corn, and all of the various

material grown on it was inoculated into animals without result. Corn extracts, removed by the latest scientific methods, were also used, the entire experimental work being negative as to the production of any symptoms of pellagra. The detailed report of this work is most interesting, but impossible even to hint at in this brief paper.

Relative to the parasitic theory, we can only say that forty monkeys were inoculated with defibrinated blood from pellagrous patients, with cerebrospinal fluid from the same, with tissue emulsions, and with various body fluids of these patients. In addition to the inoculation experiments, extensive feeding experiments were carried on with similar materials. In addition to the forty monkeys, many guinea pigs, some rabbits and several cats were used, the entire work resulting negatively as to the production of any symptoms suggesting pellagra.

An erythema that developed in a group of these monkeys was suggestive, but we later learned that it was a physiological process, which blasted our hopes in that regard.

Relative to the rôle played by amœbæ, it was found that during the season of 1909, large numbers of patients suffered with amœbiasis. The number in 1910 was much smaller, in 1911 still smaller. Captains Siler and Nichols, who carried out this part of the work, found that in 1909, 84 per cent. of the pellagrins were infected with intestinal protozoa (entamœbæ and flagellates). Thirty-six and eight-tenths per cent. of these protozoal infections were entamœbæ. As a control, in 107 patients, 50 per cent. were infected with intestinal protozoa, of which 14 per cent. were entamœbæ. In 1910, this investigative work was carried on in Kankakee and Dunning as well as Peoria, and it is interesting to note the following findings:

At Peoria, among 50 non-pellagrous patients, 52 per cent. showed entamœbæ and 60 per cent. flagellates; among 21 pellagrous patients, 76 per cent. showed entamœbæ and 76 per cent. showed flagellates. Quite a large per cent. of these latter patients were suffering with severe diarrhœa, resembling amœbic dysentery. Captain Siler classified these organisms into three species: the Entamœba hystolitica, the Entamœba coli, and the tetragena. It is only fair to state that at Kankakee and Dunning, also, protozoal organisms were found fairly abundantly, both in pellagrous and non-pellagrous patients. While early in the work both Captains Siler and Nichols believed amœbiasis played a part in lowering the vitality of the patient, so that pellagra could develop, they later felt that it had little to do

with the disorder. The fact remains, however, that in many places where pellagra is present amœbiasis also occurs, and this fact lends some weight to the theory of Long.

In work carried on last autumn in the Kankakee State Hospital, a very large per cent. of the newly admitted showed amœbæ. The same group of patients was watched for a long time and examined later, when it was found that the amœbiasis had increased 20 per cent. These findings are only suggestive.

Comparative Number of Cases.

In Peoria, in 1909, there occurred 177 cases; in 1910, 67 cases; in 1911, 14 cases; making a total of 258. Of that number, 128 are dead, which gives a mortality of 49 per cent. In Dunning, the figures run about the same. In Elgin in 1909, there were 10 cases; in 1910, 4 cases; in 1911, 24; the death rate in Elgin being 31 per cent. Of interest in this comparative table is the fact that the meat diet in Peoria was increased in 1911 and decreased in Elgin. The gentlemen having charge of the food analysis make the suggestion that a lack of animal food might predispose patients to the disease. The figures above quoted are suggestive along this line.

As to seasonal recurrence, in 1909 the disease reached its height in August; in 1910, in June; in 1911, May and August were about a tie.

In a very carefully worked-out study, Professor Grindley and his associates determined the amount of the various sorts of food necessary for patients in the institutions. Their work in nutrient values as demonstrated in their report should be most valuable to future workers along this line. I can only state here that on the whole, the dietary in the major portion of the institutions of the State is well up to the standard of similar institutions everywhere in the world. Their work on the corn diet and study of this problem in every way led them to believe that corn was an insignificant factor in the production of the disease.

Résumé.

Pellagra is a systemic disorder, characterized by a cutaneous exanthem, symptoms of gastro-intestinal disturbance, and more or less well-marked general debility and emaciation. The only reliable diagnostic symptom is the skin eruption. The tongue symptoms are important, as outlined early in the paper. The gastro-intestinal symptoms are very frequent, but not always marked, and may be

absent. They consist of diarrhœa, with liquid, putrescent stools of peculiar odor, which is thought by some to be characteristic. More or less anorexia is present, as a rule, but sometimes the appetite is excessive. Emaciation and general weakness are present in a degree more or less corresponding to the severity of the gastro-intestinal symptoms. Sometimes, besides these features, there is a general tendency toward the development of mental disorder of delirious type, and in the later stages to the occurrence of the central neuritis syndrome. The course of the disease is variable; in many cases it consists of annual exacerbations lasting one or two months, with apparent recovery in the interval. Some patients seem to have one attack and then recover, at any rate without recurrence during one pellagrous season. The percentage of recurrences in individuals recovering from the attack in 1909 was 31; in 1910, 13. In 1911, of the 1910 attacks which did not prove fatal, only 8 per cent. recurred. Death may result in any attack, whether the first or later recurrence. This may transpire during the acute phase, apparently from general exhaustion; or at a later period, after all characteristic pellagrous lesions have disappeared, with symptoms of central neuritis. The mortality has been very high in this State, pellagra being given as the immediate cause of death in practically 50 per cent. of the 258 cases at Peoria State Hospital.

Symptoms which appear to be of bad prognostic import are the early appearance in severe degree of gastro-intestinal and mouth symptoms, marked emaciation, and the occurrence of nervous symptoms, such as delirium and signs of central neuritis. Moderate anæmia is the rule, with a color index which is frequently normal or even slightly above. Leucocytosis occurs occasionally in severe cases, but as a rule the number of white cells is within the normal limits. There appears to be no characteristic change in the relative proportions of the different varieties of white cells. No abnormalities are noticeable in the size, shape or staining properties of the red cells. No abnormal bodies have been found either in fresh or stained specimens. Almost all cultures have been sterile.

In the urine, indican has been increased, and there has been variation in the actual quantity, specific gravity, and composition. A trace of albumin, with hyaline casts, is not uncommon.

The cerebrospinal fluid shows no increase of cell elements or albumin content, and cultures have been uniformly sterile.

Complement fixation tests with the blood serum of pellagrins as an amboceptor and extracts of pellagrous liver, tongue, and spleen

as antigen have given results which cannot be regarded as specific at present. Negatives with positive cases and positives with normal sera have been encountered too frequently to permit of any interpretation.

Anaphylactic tests by von Pirquet's method, using extracts of healthy and damaged corn, have proven uniformly negative.

The post-mortem findings are those of a generalized intoxication. Fatty degeneration of the liver, with inflammation and ulceration of the intestinal mucosa, and the occurrence of islets of subacute inflammatory exudate in the portal canals of the liver, suggest an intoxication of intestinal origin, which may be either primary or secondary. There is nothing characteristic of pellagra in the lesions found in the nervous system; they can be regarded only as evidence of intoxication.

Inoculation of monkeys and other animals with tissue emulsions and body fluids has been entirely unsuccessful. Feeding with the dejecta of human pellagrins has given rise to no symptoms. Similar negative results were obtained from inoculations with organisms isolated from these stools.

Feeding experiments with corn, both healthy and in spoiled condition, have been without result. Injection of extracts from corn contaminated with five different moulds was found to be toxic in one instance only, the organism being Monascus purpureus. Another sample containing a blue-green penicillium and contaminated with bacteria was highly toxic. Corn has formed but a small part of the hospital dietaries and the quality was excellent. Careful observation of the squads of individuals fed with a large excess of corn products for a period of twelve months, compared with a similar number given a strictly corn-free diet, revealed no differences in the number of cases or the severity of pellagra which developed in each. Detailed study of the general diet of the Peoria State Hospital revealed a deficiency in protein constituents, and especially in animal protein. Comparisons between the average amount of meat supplied to the inmates of this with the other State hospitals suggest a greater or less degree of deficiency in all. It is also noticeable, although it may be accidental, that pellagra has diminished in Peoria and Dunning coincidently with an increase in the meat supplied, while at Elgin the number of pellagrins has increased with the decrease in the amount of meat provided per capita.

The chemical analysis of one pellagrin's brain shows no deficiency in sulphur or phosphorus, but only a disturbance in the com-

binations of the former. This is quoted only in relation to the possibility of a deficiency in certain elements in the diet which has been suggested as a cause for pellagra.

Conclusion.

From the above, pellagra is a disease which appears to be due to infection with some living microörganism. A possible habitat for this parasite in man is in the intestinal canal. The part played by insects is conjectural. The number of cases of known pellagra renders this disease a decided menace to the public health of this State, and it seems important, therefore, that a careful search should be made for cases outside of the State hospitals, and that physicians everywhere should be informed concerning the possible development of a disease that has been a national calamity in Italy for one hundred and fifty years.*

DISCUSSION.

Dr. Zeisler remarked that while most of Dr. Ormsby's report was of a negative character, it was work of this kind that eventually led to success. The subject of pellagra was not merely of local interest. Its importance was constantly growing, and in confirmation of this the speaker said he recently saw a young woman from Muskegon, Mich., who was undoubtedly suffering from pellagra, and his diagnosis to that effect was at the time confirmed by Dr. Ormsby. His treatment in this case consisted principally of the internal administration of iron and arsenic, and to his great delight he had lately received a letter from her stating that she was now practically well. Dr. Zeisler said that a few days ago, at his clinic in the Northwestern University, he presented another case of pellagra, the patient being an elderly man, a native of Hungaria, who had lived for a long time in South Chicago. These cases go to show that this disease occurs in isolated places and that it is not necessarily of an epidemic character.

Dr. Brayton said he had studied diseases of the skin occurring in Indianapolis for the past quarter of a century, and he felt positive that no case of pellagra had developed there under his observation. He had made inquiries of the superintendents of five hospitals for the insane in his State, and he had obtained no evidence that pellagra had ever appeared in any of those institutions.

*For further details the reader is referred to the monograph published by the Commission.

SEBORRHŒA CAPITIS.*

By George Thomas Jackson, M.D., and Charles Wood McMurtry, M.D., New York.

IN 1863 there appeared in London a book entitled "New Views on Baldness," by a barber and hair dresser named Truefitt. That title has always appealed to us as a most delightful one. We well might have chosen as the title of this paper, "New Views on Seborrhœa," as it is our endeavor to present to you the most recent teachings on that subject.

In the preparation of our book on Diseases of the Hair, which is now being printed, we had a clear course and ran into no kind of difficulty until we came to the chapter on seborrhœa. After many weeks of hard reading one of us, Dr. McMurtry, wrote that chapter and whatever credit may fall to this paper is due to him. We claim no originality, our sole aim being to interpret the results of the studies of others, in the hope that thus we may be of service to some of our readers.

Until recent times systematic writers, following the teaching of Hebra, have described a seborrhœa oleosa and a seborrhœa sicca. It had not escaped the notice of scores of observers that sometimes there were signs of inflammation added to the usual symptoms of seborrhœa of the scalp, and authors wrote of this as seborrhœa sicca with inflammation. In course of time Unna presented for our consideration his seborrhœal eczema and opened a new field of controversy.

As is known to you, Sabouraud of Paris has spent years in careful and scientific investigation of seborrhœal diseases. His work is so thorough that he has the field almost to himself. It has been confirmed in most respects by other investigators. We acknowledge our indebtedness to him for most of what follows.

Instead of one disease, the seborrhœa of Hebra, with its oily, dry and inflammatory forms, we now have four diseases, namely: seborrhœa, pityriasis simplex capitis, pityriasis steatodes and seborrhœal dermatitis. Let us take up each in turn.

*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

1. Seborrhœa.

There is but one form of this disease and that is the oily form, the seborrhœa oleosa of the older writers.

Symptoms. The scalp and hair appear abnormally greasy or oily, the degree varying in different cases. The skin of the forehead and nose is also oily and shiny. Inspection of the scalp, especially with a magnifying glass, shows marked dilatation of the pilo-sebaceous follicles. If a portion of the scalp is pinched up between the thumb and forefinger a number of minute, white, vermicelli-like masses are squeezed out of the follicle mouths. Sabouraud calls these "seborrhœal filaments" and regards them as the characteristic lesion of the disease. When these contain many keratinized cells they are of firm consistence, and if they accumulate on the scalp they form a waxy crust. This is one form of the so-called seborrhœa sicca. If there are fewer keratinized cells the filaments will have more the consistence of soft butter and the scalp will appear as if rubbed with oil. The whole scalp is eventually involved. As a rule there are no scales. If there are any, it is because of a complicating pityriasis. If the disease is unchecked it will cause baldness of the Hippocratic type involving the top of the head from the vertex to the frontal region.

Bacteriology. According to Sabouraud, the disease is due to inoculation of the scalp with the microbacillus. Implanted on a suitable soil these bacilli grow on its surface until they reach the orifice of a sebaceous gland. This they enter and in it form a colony, which is part of the above-mentioned sebaceous filament. This consists of epithelial cells, sebum and in the central portion, one or more colonies of the bacillus in pure culture. The sebaceous gland reacts to the infection by a hypersecretion of sebum in an effort to sweep away the parasites. The surface of the scalp thus becomes covered with greasy sebum and a vast number of bacilli and the infection is spread in all directions. An hypertrophy of the sebaceous glands with destruction of the hair follicles and falling of the hair results. This alopecia is *permanent*. Darier and some others do not accept this theory of Sabouraud and for the time being it is best to regard it as not proven.

2. Pityriasis Simplex Capitis.

Symptoms. The hair may be of normal appearance, but it is usually dry and lustreless. Throughout the entire hair growth, white or gray scales are seen, which cling to the hair like powder,

coarse grains of sand, or thin, small, bran-like plates. They are readily brushed off and fall about the coat collar and shoulders like powder. The scalp is absolutely devoid of inflammation. The scalp itches and sometimes shows small blood crusts, the result of scratching. The whole scalp is usually involved, but it may occur in patches. The disease does not cause baldness. This condition is what is spoken of as dandruff and sometimes as seborrhœa sicca.

Bacteriology. If Sabouraud has not proven his contention that the disease is of bacterial origin, he has demonstrated the constant presence of immense numbers and growing colonies of the spores of Malassez in all cases of it. These he has found also on the normal skin, but in scattered units and small groups. Their absolute specificity remains to be proved. The spores of Malassez are identical with the bottle bacillus of Unna. They are polymorphous, being either spherical, banana shaped, bottle or flask shaped. They are found in colonies, or in groups of eight to ten or more and have no mycelia.

Pathology. This disease is a simple hyperkeratosis, not a parakeratosis. The scales are composed of normal, mature, completely keratinized cells of the horny layer, without nuclei. They have nothing to do with the sebaceous glands nor with seborrhœa. Pityriasis simplex is often converted into pityriasis steatodes and complicated with seborrhœa.

3. Pityriasis Steatodes.

Symptoms. In this disease the scalp is covered with coarse and large yellow or amber-colored scales of a distinctly greasy nature, that often heap up into crusts. They may be present in enormous amount. They tend to adhere to the scalp and do not brush off easily. The scalp under them may be normal in color, or it may be rosy and slightly moist. There is no redness, swelling, nor vesiculation. The whole scalp is usually involved and the disease may extend beyond the hair line. Pruritus of mild degree is experienced and loss of hair results. Seborrhœa often complicates matters and pityriasis steatodes may develop into seborrhœal dermatitis, or even eczema. This condition is what has been called seborrhœa sicca.

Bacteriology. This disease most commonly appears on a scalp on which pityriasis simplex has existed for several years. According

to Sabouraud it is always the result of a secondary infection of a pityriasic scalp with his polymorphous coccus with gray colonies, and we find both this coccus and the spores of Malassez present in every case. The microbacillus of seborrhœa has nothing to do with either form of pityriasis except as a simple complication. The polymorphous coccus with gray colonies is apparently identical with Unna's morococcus. It may appear as a monococcus, a diplococcus, or in groups of four. It may be oval, club, or dumbbell shaped.

4. Dermatitis Seborrhœica.

Symptoms. This disease begins on the scalp as small patches, either singly or in groups. These grow peripherally and coalesce to form large, polycyclic or serpiginous lesions, covered more or less completely with rather coarse, soft, loosely adherent, yellow and distinctly greasy scales or crusts. The latter tend to adhere to the hairs and mat them together. The hair is usually oily, but may be dry. The whole scalp may be involved, but more commonly there are a number of well-defined patches surrounded by normal-colored, but scaly skin. The diseased scalp is red or yellowish red. A mild degree of pruritus is complained of and loss of hair eventually occurs. The disease may spread widely over the body and is commonly seen on the face and eyebrows.

Bacteriology. In this disease the spores of Malassez, the microbacillus and the polymorphous coccus with gray colonies are found together. This combination of microörganisms would seem to be responsible for the inflammatory reaction.

Diagnosis. Thus according to the newest teachings we learn that: seborrhœa is distinguished by simple oiliness of the scalp; by the seborrhœal filament; and by the presence of the microbacillus in large numbers on the scalp and in the hair follicles.

Pityriasis simplex capitis is distinguished by dryness and excessive branny scaling of the scalp; absolute absence of inflammation; and the presence of immense numbers of the spores of Malassez.

Pityriasis steatodes is distinguished by the presence of greasy scales and crusts on the scalp and hair; by the absence of all signs of inflammation; and by the presence of the polymorphous coccus with gray colonies.

Dermatitis seborrhœica is distinguished by the presence of rather coarse greasy scales and crusts upon reddened and inflamed skin; by proneness to occur elsewhere than on the scalp; and by the pres-

ence of a mixed infection with the spores of Malassez, the polymorphous coccus with gray colonies and the microbacillus.

DISCUSSION.

Dr. MacKee congratulated the authors upon the clear and concise manner in which they had dealt with an apparently complicated subject. The speaker felt that the main points of difference in the contentions of Unna and Sabouraud were the names of the microörganisms and the terms employed to designate a given clinical appearance. If a history were obtained in cases of the oily type of seborrhœa, it would usually be ascertained that the oily condition had been preceded by waxy scales and that the first symptom noticed was the dry scale or dandruff. The speaker had been in the habit of teaching his students that dandruff represented the seborrhœa sicca of Unna or the pityriasis simplex of Sabouraud and that it was probably due to the spores of Malassez which were identical to Unna's bottle bacillus. The next step in the process was a complication with a coccus called the polymorphococcus by Sabouraud and morococcus by Unna. The scales were now waxy and the condition was known as pityriasis steatodes. The final stage was the seborrhœa oleosa or, perhaps, dermatitis seborrhœica, due to the microbacillus of Sabouraud or Unna's bacillus of oily seborrhœa. It was, of course, likely that any one of these conditions could be produced and could exist alone, depending upon the microörganism at fault. It was questionable, however, if any of these stages could be considered a separate disease or entity. It was the speaker's experience that loss of hair might occur with any one of these conditions as well as without any evidence of local disease at all.

While the authors of the paper did not enter into a discussion of treatment, the speaker would ask if any one of these conditions—pityriasis simplex, pityriasis steatodes, or seborrhœa, was permanently curable? Dr. MacKee had seen very few instances of permanent recovery. Pityriasis simplex was very easily controlled, but even this condition was prone to relapse. Steatoid pityriasis was not so easily controlled and relapses were the rule. Well-developed seborrhœa of the scalp was so recalcitrant to treatment that the word exacerbation should be substituted for relapse. The interesting question was the cause of the relapses. Were they due to an incomplete cure—latency—or to reinfection? The speaker was inclined to believe that the latter factor was an important one on acount of hypersusceptibility. Scales removed from diseased scalps and applied to healthy heads would produce the affection in a certain number but not in all individuals. It was reasonable to suppose that this lack of resistance persisted even after the disease was apparently cured. Reinfection was difficult to avoid because the organisms were found in barber-shops, railroad cars, etc. It would seem that the best method to avoid reinfection was the routine employment of an antiseptic scalp lotion.

The speaker said that besides the application of the various chemical stimulants, irritants and disinfectants, he had found the high-frequency current of considerable value in obstinate cases of alopecia. This treatment alone was of little value, but when combined with the usual methods the benefit was considerably enhanced. The action of the high-frequency spark was upon the vasomotor nerves with the production of an active hyperæmia, which would endure for six or eight hours and which could be favorably contrasted with the evanescent hyperæmia caused by chemical irritants. The latter, if constantly applied, would eventually give rise to congestion which was quite different from an active hyperæmia and which was to be avoided.

Dr. White asked whether any of the members could suggest a cure for seborrhœa oleosa of the eyebrows? In these cases the underlying skin was sensitive and the hairs were thinned out. The condition was particularly common, he thought, in nervous women. As to seborrhœa capitis, Dr. White thought it was a comparatively simple thing to cure these cases in children. In the adult, however, it was almost impossible and the treatment had to be continued indefinitely.

Dr. Pollitzer thought the great difficulty we all experienced in seborrhœal conditions of the scalp was due, in part at least, to the fact that we did not recognize the importance of the germ element in the causation of the disease. We were, of course, all of us more or less under the influence of conventional methods and views concerning the hair and it was hard to get entirely away from them. If we would treat a case of seborrhœa of the scalp with the idea that we were dealing with an infectious disease and that the infective agent was in the hair follicle—not on the surface—and, furthermore, was surrounded by a very thick, impervious sebaceous and horny mass, then we would realize on the one hand that we had a rather difficult proposition to deal with and on the other we might be stimulated to treat these cases more energetically than we would otherwise do, with the aim of eradicating the disease rather than of checking it temporarily.

As a factor in the spread of the disease as well as to prevent recurrences, Dr. Pollitzer said the proper care of the comb and brush was very important. It was a popular notion, encouraged by the physician, who was inclined to accept the popular view, that baldness was hereditary. We heard that expression frequently. We were told it ran in families, but if we took the trouble to inquire, we would find that there were very few families in which the children were taught to respect their own brush and comb and as the result of this lack of discrimination, the child's head frequently became inoculated with the seborrhœal organisms of the father.

In the treatment of seborrhœa, the speaker said, he made it a rule to have the patients' combs washed with soap or soda and warm water every time the scalp was washed. He cautioned them against having their heads touched by the barber for shampooing or other purposes. The usual remedies were those of the sulphur group and while they sufficed to check the disease, they did not cure it, because they did not penetrate the hair follicle or destroy the seborrhœal cocoon, which should be our aim. In a few cases where the treatment was feasible, he had had epilating applications of the X-ray given to the scalp, with fairly good results. He believed that seborrhœal eczema of the scalp was curable by long-continued and persistent treatment and the treatment should not be discontinued though it might be moderated, for months or years after all signs of the disease had been removed.

Dr. Wolf said that diseases of the scalp were among the most common dermatological affections and the general practitioner should realize the necessity of instructing his patients in scalp and hair hygiene which should be applied early in life. Individual brushes and combs were very important and all tonsorial implements should be kept perfectly clean. It was a common belief among women that frequent shampooing was harmful. He always endeavored to impress upon his patients the necessity of devoting as much attention to the hair and scalp as to any other part of the body. Cleanliness of the scalp prevented a good percentage of scalp affections.

Dr. Hartzell said he would like to ask those gentlemen who took such elaborate care of their patients who were suffering from seborrhœa of the scalp

whether their successes were greater than those who merely advised the use of sulphur preparations?

Dr. G. H. Fox said that in the treatment of seborrhœa of the scalp he had tried many of the parasitic preparations that had been so highly recommended and his success with them had been no better than would result from a thorough washing of the scalp, together with remedies directed toward an improvement in the general health of the patient. Among the women who did not believe in frequent washing of the scalp there would be found many with magnificent heads of hair, which apparently continued to grow in spite of the germs that might be present.

In reply to the remarks made by Dr. Pollitzer, the speaker said that while he was in favor of an individual brush and comb, still he ventured to express the belief that if Dr. Pollitzer, on his trip from New York to St. Louis, had stopped at every station on the way and had his hair brushed by the local barber, it would not have resulted in baldnes. He believed that baldness, like the color of the hair, ran in certain families and that, except in a slight degree, it was not preventable. The idea that it was due to using the same comb or brush seemed to him theoretical in view of our everyday experience.

Dr. Lain said he had been making a study of the skin lesions among the American Indians in Oklahoma and had examined between 3,500 and 4,000 persons. Many of these were school children, in whom he made a particular note as to the presence or absence of seborrhœa. This subject came up for discussion at the meeting of the American Medical Association in St. Louis and since then he had paid particular attention to it, and while he was not yet prepared to say that these seborrhœal affections of the scalp were due to the promiscuous use of the brush and comb, he had learned that among the older Indians, who used their fingers or a thorn instead of a comb, seborrhœa was practically unknown; they had other eruptions of the skin, but this particular affection was conspicuous by its absence. Contrasted with that was the fact that among the Indian school children, who were confined to the schools under strict regulations and where they were taught to use the common comb and brush, seborrhœa of the scalp was present in from 65 to 75 per cent.

Dr. Pollitzer said that so far as he knew, seborrhœa was unknown among the lower animals and did not occur among savages generally. It belonged to civilized life. As Dr. Lain had said, the North American Indian, who had not yet become accustomed to civilized life, had not become infected with this organism, but his children who were sent to school, where they associated with white children, had already become infected and as time went on they probably would become even more so. That seborrhœa did not always produce baldness was of course well known. The deleterious effect on the hair and its vitality was due to the seborrhœal organisms. If there was a very vigorous growth of hair, this deleterious effect was not sufficient to destroy it: this was commonly the case in women and the same was true of the beard in man. These structures were secondary sexual characters in the Darwinian sense, and possessed greater vitality than the hair on the head of a man, which was analogous in respect to the vermiform appendix and of no great importance. Among the less civilized races, the hair possessed greater vitality and it took a great deal to destroy it.

Dr. Jackson said that in the paper which he presented in conjunction with Dr. McMurtry, he had no idea of touching upon the treatment of the seborrhœal affections of the scalp. He simply wished to emphasize the fact that we were mistaken in our older idea that in seborrhœa we had but a single disease and that, on the contrary, we had at least four separate and distinct affections. The

speaker said he had no doubt regarding the infectious nature of seborrhœa and that the proper care of the hair had much to do with its preservation. After the infection had once extended down to the hair follicles, a cure was difficult, if not impossible, and the best we could do was to keep the scalp in such a condition that when the parasites got on it, they would have no chance to grow. The individual resistance of the patient was doubtless an important factor. The son of a bald father becoming infected would probably lose his hair more readily than would one coming of a strong-haired family. Dr. Jackson said he was very much interested in Dr. Lain's remarks about the absence of seborrhœa in the adult uncivilized American Indian, and its comparative frequency among the younger and more civilized generation of Indian school children. This would seem to add to the evidence showing that the disease was contagious. Referring to the prevention and treatment of seborrhœa capitis, the speaker said he agreed with what had been advocated by some of the previous speakers, namely, the insistence upon an individual brush and comb and the importance of keeping these toilet articles strictly clean. They should be disinfected at least once or twice a week.

LICHEN PLANUS DIFFUSUS, FOLLOWED BY VESICO-BULLOUS, INFECTED LESIONS: CURE OF LATTER WITH ONE INJECTION OF AUTOGENOUS VACCINES.

By M. B. Hutchins, M.D., Atlanta.

THE patient, G. K., male, six years of age, came under observation on Nov. 10, 1910. The duration of the eruption was one month. It first appeared on the arms and legs.

Status Præsens. The wrists, forearms and legs were covered with a multitude of closely set, violaceous, pearly, pinhead to pea-sized, polygonal, flat-topped lesions. A few dime-sized areas were composed of confluent, flat-topped papules. On the upper chest and neck were many very minute, typical but paler papules; there were none in the buccal cavity. The boy was thin, very nervous, but otherwise healthy. He was very bright mentally.

Treatment. External: Carbolic acid and bichloride of mercury in lanoline and zinc oxide ointment. Internally: Three drops of Fowler's solution in essence of pepsin after each meal. At the end of two weeks the eruption was more diffuse with lesions on the face, neck and mucous surface of the lips. Pruritus was severely complained of. At the end of three weeks the areas of eruption had become scaly and somewhat faded. Three months after all treatment had been discontinued pea-sized vesicles formed in the various patches of eruption and also on the fingers and toes where there had been no lesions. On the anterior and inner surfaces of the thighs were symmetrical patches containing pecan-nut-sized bullæ. On the face near the mouth, were several impetigo-like lesions. There were, also, similar lesions on the fingers, which were surrounded by œdema and loosened epidermis. On the right thigh and forehead were, for a few days, palm-sized areas of œdema. No new lichen planus lesions had developed but the pruritis was intense.

The vesicles and bullæ were emptied of their contents and an ointment composed of ammoniated mercury and zinc oxide was applied. Fowler's solution was resumed but only for a short time. Three days later there was a sudden increase in the number of vesicular lesions. The lesions on the feet evoluted into pustules. The local applications at this time consisted of a weak carbolic acid solution containing camphor, which was given for the purpose of allaying the itching. On Jan. 15, 1911, the patient developed a septic temperature which ran as high as 104°F. He complained of sore throat but no lesions were demonstrable in this region. Ichthyol, dram one to four ounces of water, was now prescribed for external application, with the exception that ammoniated mercury ointment was used on the few pustular lesions. There was a fresh outbreak of vesicles on January 28th, and February 3, 1911. The temperature remained irregular during this time.

Cultures made from one of the vesicles produced a pure growth of the staphylococcus aureus. A vaccine was made from this culture and on February 3d, a dose of fifteen million bacteria was administered. The temperature was normal on the following day, but there were a few new vesicles. On February 7th, there were no vesicles and the integument generally was looking better than it had in months. On March 7th, there were no lesions of lichen planus and there had been no vesicles since February 4th. There was some brown pigmentation as a result of the former lesions. The tonsils were enlarged as also were the subaxillary and inguinal glands. It should be mentioned that the patient received for two weeks prior to the administration of the bacterial suspension and for a day or two after, one grain of mercury and chalk, three times daily.

Of course, an effort to attribute the lichen planus to the staphylococcus would strain the imagination. That they produced the subsequent vesicles and bullæ is uncertain in spite of the fact that the organisms were found in these lesions. There was, however, a prompt recovery from all the distressing symptoms promptly after a single dose of autogenous vaccine, whereas all former medication had been practically useless.

Seven Carnegie Way.

SPECIAL REVIEW ARTICLE.

Salvarsan.

(*Continued from page* 430).

By Faxton E. Gardner, M.D., New York.

The latest development in salvarsan therapy is the appearance of neosalvarsan (No. 914), which bids fair to dethrone salvarsan (606). Neosalvarsan is a direct derivative of salvarsan, being, in fact, a condensation of the latter with sodium formaldehydesulfoxylate. The ease with which salvarsan combines with the hydrochlorides of various bases was already well known, and guided Ehrlich in his attempts to obtain a

salvarsan derivative that would be easily soluble in water and give a solution of perfectly neutral reaction.

Neosalvarsan is a yellow powder, exceedingly soluble in water, making a neutral solution. Hence the heretofore necessary neutralization with caustic soda solution can be discarded. Schreiber, from whose recent article in the *Münchener medizinische Wochenschrift* (April 23, 1912) we borrow most of the following details, is convinced that much of the unpleasant after-effects observed with salvarsan are chargeable to the soda solution, which is not easily kept sterile, the concentration of which is not always accurately estimated and which sometimes contains impurities, particularly potash or ammonia. So that the doing away with the soda solution is a great improvement. The technique of the injection of neosalvarsan is ideal in its simplicity. The powder is dropped directly from the tube into freshly distilled water at room temperature (*not warmer than* 68° *F.*), the container is rotated (*not shaken*) once or twice and the solution is ready to inject. The injection must be made *immediately*, as neosalvarsan exposed to the air very readily undergoes oxidation. The warning against vigorously shaking is also due to the same fact. The cold solution is injected into the veins: absolutely no harm results, inasmuch as Schreiber had already shown that, even with salvarsan, cool solutions were better tolerated than warm solutions. If it is desired to slightly warm the freshly distilled water, it must be done in a water-bath before the neosalvarsan is dropped into it: *under no pretense must the solution, once made, be heated.* The oxidation products of neosalvarsan are markedly more toxic than neosalvarsan itself. Oxidation, announced by a deeper reddish color of the solution, takes place in the solution left exposed to the air, or in the drug itself when not enclosed in vacuum tubes. Hence the inadvisability of preparing a large quantity of solution to be divided among several patients. *Prepare each individual dose separately.* With the exceedingly prompt and easy solution of neosalvarsan, this is no hardship at all and does not take any extra time to speak of.

Saline solution is not recommended with neosalvarsan. Up to a 4 in 1,000 concentration, sodium chloride does no harm, but it has no advantages: higher concentration very easily causes a turbidity of the solution which then seems to be more toxic.

A solution containing 0.6 gm. to 1.5 gm. of neosalvarsan in 200 to 250 cc. of distilled water is somewhat hypotonic and calls forth a slight change in the color of the blood and a little hæmolysis; but the solution is diffused so rapidly in the circulation that no harm results. An isotonic solution would be obtained with an 8 to 220 dilution of neosalvarsan which is much more concentrated than was ever used. Satisfactory results are obtained by using 20 cc. of water to the quantity of neosalvarsan corresponding to 0.1 gm. of old salvarsan.

As regards the action of neosalvarsan, it is the same as that of salvarsan itself; but, as neosalvarsan contains an added radicle, a given weight of it contains less active arsenic and the same weight of salvarsan, the reduction being about half, so that three parts of the new drug contain as much active principle as two parts of the old drug. In other words, 0.6 gm. of salvarsan corresponds in activity to 0.9 gm. of neosalvarsan; 1 gm. of salvarsan corresponds to 1.5 gm. of neosalvarsan. We must not forget this when considering the very high figures given by Schreiber. The tubes sent out as samples contain amounts of neosalvarsan corresponding to 0.3 gm., 0.4 gm., 0.5 gm. and 0.6 gm. of salvarsan respectively.

The fact that we have to use larger amounts of neosalvarsan to get the same dose of active principle has no drawbacks, for neosalvarsan seems to be much less toxic than salvarsan; about two and a half times less; the "dosis tolerata" of neosalvarsan being in the rabbit 0.2 gm. as against 0.08 gm. of salvarsan; and in mice, much larger, also, than with the earlier preparation. This lessened toxicity does not take away any of the power of the drug, as ascertained experimentally by Karsben in relapsing fever and other infections.

Up to the present time Schreiber has given about 1,200 injections of neosalvarsan; some intramuscular, some intravenous. Lately, he has been using only the intravenous method, which more and more seems to be the only acceptable method. However, it must be said that, owing to the perfectly neutral reaction of neosalvarsan solutions, the local inflammatory phenomena after a *truly intramuscular* injection are much less marked than with salvarsan solutions. The subcutaneous method, needless to say, must be altogether rejected. The local changes are also much less important and the neosalvarsan undergoes resorption much quicker. The best dilution, according to Schreiber, is 1.5 gm. to 20 gm. of water. Often, to minimize the pain immediately after the injection, Schreiber first injects 5 cc. of a 5 per cent. solution of novocain, leaves the needle in place and then injects the neosalvarsan solution after a few minutes. He has not noted any considerable infiltration and has not seen any case of necrosis, but sometimes there is a tense œdema which is hardly painful and subsides promptly. Schreiber has also tried oily emulsions, but this mode of injection does not seem to have any perceptible advantages.

As regards doses, 1.5 gm. in average men and 1.2 gm. in women are perfectly well tolerated. It goes without saying that it would not be advisable to start at once with such high doses. Schreiber advises to begin in men with 0.9 gm. (corresponding to 0.6 gm. salvarsan) and in women with 0.75 gm. (0.5 gm. salvarsan) and to go up to the aforesaid doses in the subsequent injections. In children, he gives 0.15 gm. and in infants 0.05 gm. For the purpose of giving in the beginning as high doses as possible, Schreiber of late has injected his patients *every other day* for

a week, giving on the first day, 0.9 gm.; on the third, 1.2 gm.; on the fifth, 1.35 gm. and on the seventh, 1.5 gm. which means in a week, 4.95 gm. of neosalvarsan, corresponding to 3.3 gm. of salvarsan. In vigorous men, he has given 1.5 gm. from the outset, so that the patients have received within a week 6 gm. of neosalvarsan, corresponding to 4 gm. of salvarsan. Of course, when dealing with weaker individuals, the amount must be decreased. Patients complaining of headaches or other nervous symptoms, or with marked cerebral involvement are those who give trouble with salvarsan and caution is here needed with neosalvarsan. This is true despite the fact that the untoward after-effects of neosalvarsan seem to be considerably less than those of salvarsan. Stomach disturbances are very rare. The absolutely neutral reaction of the solution is of great advantage, as when the injection is not given perfectly correctly and some of the solution leaks into the subcutaneous tissue, the burning pain is very slight and none of the troublesome infiltrations, common with salvarsan, develop.

As far as curative results are concerned, says Schreiber, they are just as quick as with salvarsan. Spirochætæ disappear sometimes in four hours; always within 24 hours. Thermic ascensions after injections of neosalvarsan are observed only in cases where the spirochætæ are numerous and especially after the first injection: this is the Ehrlich *ictus immunisatorius*. The temperature goes up a few hours after the first injection; at the same time, there is a slight headache. This rise in temperature is normal and typical. Any rise occurring after the subsequent injections is abnormal and traceable to a bacterial impurity. If it is desired to avoid this initial thermic ascension, we must begin with very small doses.

Even with his high doses, Schreiber has not seen any other disturbance of the internal organs; he has not observed albuminuria: in a few cases, there was some urobilinuria; in others, a moderate leucocytosis. Of course, the Herxheimer reaction may be noted sometimes after neosalvarsan. With the very high doses, as might be expected, arsenical exanthemata were somewhat more common. These occur between the eighth and twelfth days, but can be avoided by careful gradation in the doses; and they are not permanent. Neosalvarsan can very well be used in the treatment of subjects who have once presented an arsenical eruption, without fear of seeing the eruption necessarily recur. Venesection and saline infusions are useful in the treatment of these exanthemata.

The results on the Wassermann reaction are naturally similar to those observed with the old salvarsan; but some time is still needed here for confirmatory work.

The preliminary method is now as follows: Four injections are given and two weeks after the last one, the Wassermann reaction is tested. If it is negative, the test is repeated every four weeks and as soon as a tendency to become positive again is detected, an energetic course of mercurial treatment is given, followed by two more neosalvarsan injec-

tions. Schreiber does not think the nature of the mercurial treatment matters much: he has seen as good results after the administration *per os* of mergal (mercury cholate), or after an inunction course, as after calomel injections. The important point is that the treatment should be faithfully taken. In tertiary syphilis the adjunction of the iodides is very useful.

The contraindications of neosalvarsan are naturally the same as those of salvarsan itself.

Summing up the advantages of neosalvarsan we may say: It is easily soluble and its solutions are absolutely neutral. It is better tolerated and can be used in higher doses. It is at least as active as salvarsan; and, finally, it is better adapted for intramuscular injections.

The experience of Emery, Levi-Bing and others is confirmatory as to the lesser toxicity, lesser reaction and ideal simplicity of technique. But to those observers and indeed to most of those who have tested neosalvarsan, it has seemed that the action is *slower* than that of salvarsan. Emery takes exception to the exceedingly high doses used by Schreiber and prefers repeated injections of 0.45 gm. doses (0.3 gm. salvarsan). Personally, in 125 intravenous injections given since May, we have seen but 5 reactions; and in all of the *recent* cases in whom we gave four injections in 10 days and who could be followed, the Wassermann was negative after three weeks. But these cases are not sufficiently numerous to escape the objection of a "lucky series." In tertiary lesions, we have seen some very prompt results and also some in which healing was slower than it probably would have been with salvarsan.

(*To be continued.*)

SOCIETY TRANSACTIONS.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting of the Philadelphia Dermatological Society was held at the College of Physicians Building, on December 11, 1911.

Dr. C. N. Davis, *President.*

Eruption Simulating Lichen Planus. Presented by Dr. Hartzell.

The case presented by Dr. Hartzell had had the present eruption for about ten years. The outbreak consisted of obtuse papules, although some were flat, of a violaceous color, which tended to form sharply marginated patches upon the extensor surfaces of the elbows, the sides of the knees, the flexure surfaces of the wrists and the forearms. The areas

were more or less symmetrical and of a ring formation. The dorsal surfaces of the hands also exhibited the eruption. There was no itching.

Dr. Stelwagon suggested as a possible diagnosis, one of the varieties of parakeratosis.

Dr. Hartzell thought of the possibility of leukæmic nodules, but considered the lesions were rather small for this condition.

Lupus Vulgaris Associated with a Curious Violet Discoloration.

A woman of thirty-five, who exhibited a lupus vulgaris of twenty-nine years' duration, presented a curious bluish-violet discoloration of different portions of the skin. This coloration was particularly marked upon the left side of the neck and ear. The color was almost the shade seen in argyria or that found in acetanilid poisoning. A blood count exhibited only 2,000,000 erythrocytes, some of a degenerated form. The patch of lupus itself had been markedly helped by the application of a 33 per cent. pyrogallol ointment.

Dr. Hartzell mentioned the strange effect X-ray treatment had in causing dilated blood vessels in the scar.

Dr. Stelwagon thought that pyrogallol had been too easily given up in the treatment of these cases and that this drug should be given a wider use.

Case for Diagnosis. Presented by Dr. Stelwagon and Dr. Gaskill.

A woman of nineteen years presented an eruption extending from above the umbilicus, over the vulva, the inner and anterior surfaces of the thighs to the knees, including a few dime-sized lesions in the popliteal spaces, the axillæ and the scalp. The lesions were of three months' duration. Other patches were also noted; a palm-sized area on the lower portion of the back, also a smaller area above the gluteal cleft. The nails were involved. Some of the patches on the outer surfaces of the thighs resembled markedly seborrhœic eczema or an erythemato-squamous eczema. The case was probably one of psoriasis of an unusual type and distribution.

Case for Diagnosis. Presented by Dr. Stelwagon and Dr. Gaskill.

A girl of twelve years had had the present outbreak upon the arm and the neck since birth. The areas involved consisted of a double palm-sized patch on the outer surface of the right arm, extending from the elbow up the biceps and over the deltoid. Patches were also noted below the right ear, extending over the clavicle to the sterno-clavicular articulation. The follicles were all prominent in the patches and gave the suggestion of nutmeg-grater skin, but the skin surface was smooth and there were no horny plugs. The right arm was much larger than the left, suggesting some lymphatic involvement. The reverse was true of

the face, the left side being much more prominent than the right, the right malar bone sharing in this change.

Keratosis of the Tongue in a Syphilitic. Presented by Dr. Pfahler.

The patient, a woman of fifty-two, was treated last summer by Dr. Schamberg for tertiary syphilis of the face, which progressed favorably under the usual internal medication. Another condition was also present at that time, involving the tongue, which was not altered by the therapeutic measures. The patient came under the care of Dr. Pfahler for the latter condition. There was a white patch, with slight ulceration in the centre, one-quarter dollar in size, on the left side of the tongue, mid-way between the anterior and posterior edges. This lesion was of two years' duration. The Wassermann test was strongly positive. There was marked enlargement of the submaxillary and sublingual glands.

Dr. Schamberg considered that this was a leucokeratosis.

Dr. Hartzll mentioned the French view, that epithelioma developed on a leucokplakia was only mildly malignant.

So-Called Parasitic Eczema. Presented by Dr. Stelwagon and Dr. Gaskill.

A male of twenty-six years presented eight sharply marginated, dime-sized vesicular, oozing patches upon the dorsal surface of the right hand, of two months' duration. The sharp margination was suggestive of ringworm; no fungus, however, had been found.

Lupus Erythematosus. Presented by Dr. Stelwagon and Dr. Gaskill.

The patient exhibited, a male of twenty-two years, presented an eruption upon the face of two years' duration. The lips, the cheeks and the nose were attacked by this split-pea to dime-sized outbreak. The patient, an Italian, was an excessive cigarette smoker.

Epithelioma Treated by Fulguration. Presented by Dr. Pfahler.

The patient under observation, a male of seventy, was treated for a growth on the tongue of six months' duration, by the application of the X-rays and the use of fulguration. The result was very satisfactory.

Frank Crozer Knowles, M.D.,
Reporter.

REVIEW OF DERMATOLOGY AND SYPHILIS.

Under the direction of

George M. MacKee, M.D., New York.

Assisted by

Louis Chargin, M.D., New York.
J. S. Eisenstaedt, M.D., Chicago.
Faxton E. Gardner, M.D., New York.
Robert C. Jamieson, M.D., Detroit.
Frank C. Knowles, M.D., Phila.
Boleslaw Lapowski, M.D., New York.
Ernest L. McEwen, M.D., Chicago.
Augustus Ravogli, M.D., Cincinnati.
Philip Frank Shaffner, M.D., Chicago.
Frank E. Simpson, M.D., Chicago.
Harvey P. Towle, M.D., Boston.
Udo J. Wile, M.D., Ann Arbor.

Dermatologische Wochenschrift.

(July 13, 1912, lv, No. 28).

Abstracted by Fred Wise, M.D.

A New Method of Obtaining Blood Serum. Y. Sakaguchi, p. 875.

The author has employed the following method to obtain the blood serum for complement, in about 5,000 cases in whom he made the Wassermann test. After obtaining the blood by venesection, scarification, puncture, etc., and collecting it into a narrow glass tube (centrifugalizing tube), he inserts a slender stick of wood (sterilized), into the tube and allows it to stand for several hours. The blood will coagulate around the sliver of wood and when it is withdrawn, the clear serum remains in the tube. The method is also useful to obtain the complement from the blood of guinea pigs.

A Case of Parakeratosis Variegata (Unna)—Exanthema Psoriasiforme Lichenoides (Jadassohn)—Parapsoriasis en Gouttes (Brocq). Menahem Hodara, p. 877 (*Conclusion*).

The histological findings are described in this installment. The first changes are seen at the periphery of the lesion, where the epidermis is still normal; the small, fresh, lichenoid patch of parapsoriasis shows the primary changes to be of a vascular and inflammatory character. They consist of a hyperplasia of the perithelial cells of the blood-vessel walls of the cutis and of the papillæ, swelling of the connective-tissue cells adjacent to the papillary bodies, with a mild œdema of the latter. Changes in the epidermis follow progressively and consist of a mild hyperplasia and hypertrophy of the somewhat œdematous prickle-cell layer, with moderate thickening of the nuclear layer. A somewhat older, scaly nodule of parapsoriasis en gouttes presents the same changes at its periphery, but more advanced; the hyperplasia of the perithelial cells is more marked and there

exists a perivascular infiltration with small, round, lymphoid cells and a more distinct distention of the connective-tissue cells of the papillary bodies; the œdema of the latter is also more marked; the changes in the epidermis also are far more apparent; where the œdema is marked, the nuclear layer gradually disappears, giving place to a superficial keratinization, resulting in the formation of keratotic lamellæ. In the central, scaly portion are seen the regressive changes of the epidermis; the hyperkeratotic and parakeratotic lamellæ become detached at the surface, the prickle-cell layer is degenerated, homogeneous, necrotic and atrophic. The majority of the prickle cells are transformed into a homogeneous, hyaline, colorless mass, showing atrophic and broken-down nuclei. These vascular and inflammatory changes are still more evident in the cutis; here a thick layer of infiltrating cells is seen, extending from the lower border of the epidermis, including the papillary bodies, down to the upper part of the cutis. These cells are composed of proliferated perithelial cells, large, perivascular round-cell masses and of proliferated connective-tissue cells. The lower border of the epidermis is indistinct, the majority of the papillæ are obliterated; loosened prickle-cells from the epidermis may be seen, mixed with the infiltrating cells of the papillary bodies. The section of parapsoriasis en plaques shows practically the same changes as those observed in parapsoriasis en gouttes.

These three sections show that the middle and deep layers of the cutis do not present a round-cell infiltration of the intervascular tissue and that the distention of the connective-tissue cells is not marked. The follicles and the glands are for the most part intact, only here and there is seen a round-cell infiltration of the walls of the perifollicular blood vessels. Necrosis, epithelioid cells and giant cells could not be found in the connective tissue, as claimed by Civatte and Milian; nor did any of the blood vessels show engorgement with polynuclear leucocytes, nor the migration of leucocytes into the tissues.

The author does not, therefore, agree with Civatte and Milian in their opinion that the disease is a form of tuberculide.

(*Ibidem,* July 20, 1912, lv, No. 29).

Newer Modifications and Technique of the Wassermann Reaction. Ernst Bernhardt, p. 907.

The author says that it is to be regretted that so little attention is paid to the subject of modifications of the Wassermann reaction and discusses in this article the work of Karvonnen and of Manoiloff in this line. Karvonnen substitutes conglutination for the complex hæmolysis, after the method suggested by the work of Bordet and Strong. He utilizes horse's serum as complement and beef serum as conglutinin for guinea-pig blood corpuscles. He comes to the conclusion that the conglutinin reaction is quite reliable and sharper than the Wassermann reaction and, furthermore, that the method is simpler and cheaper. He believes that horse's serum used as a complement-supply is not only cheaper, but is more constant in its strength as a complement than the various sera derived from guinea pigs, his reasons being that the serum may be constantly drawn from one and the same horse and that it remains unaltered (in the ice-box) for a much longer period than the guinea-pig complement. A detailed exposition of the Karvonnen modification follows, with the author's conclusion that much work must be undertaken with this modification before it can be put to practical use.

Manoiloff's method involves the substitution of normal gastric juice for the use of immune serum as hæmolytic amboceptor. Instead of the hæmolytic amboceptor, he employs the natural gastric juice of a Pawlow gastric-fistula dog. This idea struck him when he observed that luetics afflicted with gastric disorders were relieved after the administration of normal gastric juice. He concluded that

the same results could be obtained by the use of pepsin alone. He believes that the "lues-toxine" has a specific action upon the gastric juice, and that therefore the gastric juice which he substitutes for the hæmolytic amboceptor must also exert a specific action, basing his opinion on the following statements: 1. "As my experiments show, the same results are obtained with the gastric juice as with the hæmolytic amboceptor of Wassermann. 2. Dilution of 1:100 of the gastric juice produces complete hæmolysis with normal serum at all times, while with luetic serum it always results in complete inhibition. 3. Decinormal salt solution does not produce such distinct results. 4. Normal sera of non-luetic persons, even when afflicted with other infectious diseases, produce complete hæmolysis with gastric juice. 5. The cause of the reaction is purely a chemical one. 6. A certain attraction exists between the gastric juice and the luetic serum—the ability to combine. 7. Luetic serum has the intrinsic power to digest the gastric juice".

An enormous amount of experimental work in this branch of serology was carried out in the author's laboratory, the nature of which can be appreciated only by a perusal of the original article.

Wiener klinische Wochenschrift.

(April 18, 1912, xxv, No. 16).

Abstracted by Ernest L. McEwen, M.D.

On the Infectiousness of the Blood of Syphilitics. Richard Frühwald, p. 484.

The author is led to his investigations as to the infectiousness of syphilitic blood, by certain results obtained in inoculation experiments by Spengler. Frühwald reviews briefly the work done in this line in the period preceding the discovery of the organism of syphilis and in the period subsequent to that event. Since the finding of the spirochæta results have been sought both by inoculation of blood and by search for the organism in the blood. Few successful results by the former method have been reported, while the positive findings by the second method are more than offset by the failures to demonstrate the spirochæta in the blood. The author inoculated six healthy rabbits with the blood from five patients with florid syphilis, in whom the contagiosity of the blood would be most probable. In three of the cases the manifestations were late secondaries; in two, early secondaries. The blood was injected into the inner and outer sides of the ear. In each case in seven to ten days a crusted lesion formed upon the site of injection, beneath which was found an ulcer with undermined edge and reddish-brown floor, corresponding to the surface of the ear cartilage. Microscopically the affected tissue showed the process to be simply an inflammation with degeneration and necrosis; spirochætæ could not be demonstrated in the ulcer-débris, nor in the secretion from the ulcer floor. Three rabbits which had previously been inoculated experimentally with syphilis in the scrotum were again injected with syphilitic blood in the ears; the results in these were practically the same as in the other six; in one the injected blood was resorbed without destruction of tissue. Control experiments on six rabbits were made, using blood from persons without history or signs of syphilis and with negative Wassermann tests. In two the injected blood was resorbed; in one a gray-white infiltration mass developed (this rabbit was syphilitic); in the remaining three crusting with ulcer formation occurred, as in the first group. He concludes that the lesions resulting from his experiments were not specific.

Berliner klinische Wochenschrift.

(June 3, 1912, xlix, No. 23).

Abstracted by Ernest L. McEwen, M.D.

A Reaction in the Teeth Following Salvarsan. F. Zimmern, p. 1088.

This reaction consisting of marked pain in the teeth has been recorded by several observers. The author finds it most common in those who have a more or less marked stomatitis or where the teeth are badly decayed. The pain comes on quickly sometimes while the injection is being given; it is felt as a pulling, boring, or burning sensation, now in one part of the jaw, then in another. It disappears in one or two hours. The author considers the symptoms due to a sudden destruction of spirochætæ in the mouth and about the teeth, with liberation of toxines. He believes that these organisms are vastly increased in number by the presence of stomatitis (mercurial?) and reports that he has never observed the reaction in patients who have been treated by salvarsan alone (*i. e.*, who have never had a mercurial stomatitis?).

(*Ibidem*, July 1, 1912, xlix, No. 27).

On the Favorable Effect of Salvarsan Upon Pemphigus. Gustav Strümphe, p. 1267.

Strümphe reports two cases of pemphigus vulgaris which were quickly and effectually relieved by the use of salvarsan intravenously. The clinical histories were briefly:

Case 1. The patient was a boy of 13; this was the second attack within a year; there was extensive involvement of the skin and mucous membrane of the mouth, with moderate general symptoms. Two days after the intravenous injection of 0.3 gm. of salvarsan there was marked improvement, especially in the mouth condition; four days after the injection all symptoms were still further improved. A second injection six days after the first one was followed by complete disappearance of the blebs, reddish-brown macules being left to mark their sites; subjective symptoms were no longer present and the patient was discharged two weeks after the first injection.

Case 2. The patient was a machinist, 43 years old. This was the third attack in one year; the lesions were confined mostly to the face, neck, shoulders and lower limbs; the mouth was relatively free; there was slight fever. Treatment along the usual lines, including the use of quinine, arsenic, continuous baths, dusting powders, etc., was followed for 33 days, during which period the patient's condition, both with respect to objective and subjective symptoms, became progressively very much worse. Two days after the use of 0.6 gm. of salvarsan intravenously, conditions were astonishingly improved; the blebs became drier and the ulcerations cleaner and subjective symptoms were greatly diminished. In five days crusts were falling, leaving behind simple maculations; ulcers were in active process of repair, and no new blebs were to be found. The second injection of a like quantity was given six days after the first one and two days later the patient was discharged as cured, a moderate pruritus being the only symptom remaining.

The author calls attention especially to the great rapidity of improvement following the use of salvarsan and to the quickly favorable effects upon the mouth lesions. He thinks good results are obtainable from relatively small doses. Whether the successful use of the remedy in pemphigus throws any light on the

ætiology of the disease or not, the favorable effect on the mouth lesions might be considered as arising from destruction of spiral organisms which are so commonly present in the mouth. He considers that salvarsan is distinctly indicated in pemphigus and recommends doses up to 0.6 gm. intravenously administered.

Münchener medizinische Wochenschrift.

(April 16, 1912, No. 16).

Abstracted by Faxton E. Gardner, M.D.

Clinical and Therapeutic Contribution to the Study of Scleroderma. Kolle, p. 900.

The writer reports two cases: the first, scleroderma of the face, was much improved under a treatment consisting in steaming baths, gentle massage, lacto-vegetarian diet and exercise. The second, a more generalized case, was treated in the same way, plus some extract of mesenteric glands as advocated by Schwerdt. This case also showed a notable improvement. The author believes the causal mechanism of the disease to be as follows: First, a direct lesion of the sympathetic nerves or an alteration of the sympathetic system by intestinal auto-intoxication explains the trophic changes in the skin. Then secondary disturbances of glands having an internal secretion occur. Therapeutic deductions are obvious.

(*Ibidem,* April 23, 1912, lix, No. 17).

Salvarsan in Frambœsia. Rost, p. 924.

The author has obtained in the West Indies excellent results from intramuscular injections of oily emulsions. He summarizes the results in the first 500 cases: 498 were cured, 409 after one injection, 75 after two injections and 14 after three. The two cases not cured were markedly improved and their ultimate cure was only a matter of time.

(*Ibidem,* April 30, 1912, lix, No. 18).

The Histological Regression of Cutaneous Syphilides Under the Influence of Salvarsan. Rohrbach, p. 967.

The author has studied 11 cases: 3 initial lesions, 2 condylomata, 4 papular cases, a gummous ulcer and an ulcerating lesion in a case of malignant lues.

Even after salvarsan treatment, the specific infiltration of cutaneous syphilides persists for a long time, while the diffuse leucocytic infiltrations disappear more quickly and the regenerative epithelial processes are accelerated. The morphological condition and the thickness of the infiltration of "Plasmazellen" is a good gauge of the more or less complete destruction of the spirochætæ. The earlier the treatment, the more marked its efficacy. Endarteritic processes are happily influenced. The elastic elements are less damaged by the spirochætæ themselves than by their endotoxine. Owing to the long persistence of the infiltration, "following up" with chronic mercurial treatment seems very logical.

(*Ibidem,* May 7, 1912, lix, No. 19).

Late Nerve Reactions of Syphilitics After Salvarsan Treatment. Dreyfus, p. 1027.

Dreyfus takes up the question brought forward by Ravaut of the possibility of salvarsan being dangerous to the nervous system when employed during the

secondary stage; a fact which, if confirmed, would bar salvarsan from its heretofore largest field of activity. While acknowledging the accuracy of Ravaut's views on the importance of cerebrospinal fluid microscopical alterations, Dreyfus asserts that neurorecurrences are due to insufficient salvarsan treatment and too timid doses; that a salvarsan treatment that does not contemplate giving the patient *at least* 3 *gm.* of salvarsan had better not be begun at all.

(*Ibidem,* May 7, 1912, lix, No. 19).

Biological Study of the Action of Skin Extracts. Meirowski, p. 1041.

Experimenting with toluol and alcoholic extracts, the author has conclusively demonstrated the presence in skin extracts of a body that causes a marked pupillary dilatation in enucleated frog's eyes. This principle is not destroyed by heat and is not connected with adrenalin. The question is therefore raised whether the skin is not endowed with an internal secretion whose suppression partially explains the fatal consequences of extensive skin destruction.

(*Ibidem,* May 14, 1912, lix, No. 20).

Salvarsan and the Nervous System. (First Part). Spiethoff, p. 1086.

Spiethoff, like Finger, has observed more frequent neurorecurrences since the salvarsan era began than he had before. But the *number of neurorecurrences is inversely proportioned to the intensity of the salvarsan treatment.* Since Spiethoff began using repeated injections combined with mercurial treatment he has seen no more neurorecurrences, *although salvarsan certainly creates a predisposition to syphilitic conditions of the nervous system,* if used in such a way as to get only a parrial sterilization of the organism.

Salvarsan is more potent than mercury in the treatment of neurorecurrences. The examination of the cerebro-spinal fluid is a more delicate and accurate gauge than the Wassermann reaction. Spiethoff urges strongly a salvarsan course of treatment in all cases of tabes, which, he says, from the syphilologist's standpoint, do not differ from the ordinary cerebral and spinal syphilitic lesions. He has treated six cases and in all obtained a satisfactory improvement. In these cases, mercury must be a regular adjuvant. (*To be concluded*).

(*Ibidem,* May 14, 1912, lix, No. 20).

On the Individual Susceptibility of the Skin to X-rays. Thedering, p. 1128.

In general the human skin shows a constant reaction to X-rays, which explains why Sabouraud and Noire's tablets are a safe guide in most instances; but exceptions are very numerous. Every inflamed skin is hypersusceptible; so are the thin, delicate skins without much pigment, while the tanned skin of country people will stand, without developing erythema, an amount or irradiation far above the usual limit of safety.

(*Ibidem,* May 21, 1912, lix, No. 21).

My Experience with Salvarsan Treatment. Kannengeisser, p. 1148.

(*Continued and concluded in No. 22,* p. 1225).

Statistics of 534 treated cases. Salvarsan acts better than any other antisyphilitic treatment. It must be always followed up by mercury. Three or four grams of salvarsan and 180 gm. of mercurial ointment in inunctions are

necessary for a cure. Do not trust too much a negative Wassermann reaction a short time after insufficient treatment; it is no proof of a permanent success; hence the necessity of intermittent treatment. The frequency of neurorecurrences will be reduced by more energetic early treatment. The cases of death are chargeable to salvarsan. Fortunately they remain very rare.

Salvarsan and the Nervous System. (*Conclusion*). Spiethoff, p. 1158.

Salvarsan weakens the nervous system; hence neurorecurrences *if not enough salvarsan has been given to insure a thorough sterlization of the body.* This noxious action on the nervous system is unquestionable. Spiethoff reports two cases of very serious cerebral disturbance, one fatal, one ending in recovery. The prognosis of the cases with epileptiform convulsions depends on the treatment. Lumbar puncture is by far the best curative measure; next comes energetic catharsis. With venesection, in such cases, Spiethoff has had little experience. As against Ravaut's contentions, Spiethoff has found a meningeal reaction in the primary stage of syphilis (and maybe in the tertiary?), as well as in the secondary; nevertheless, this does not essentially fit Ravaut's explanation of neurorecurrences. Conversely, there is sometimes, in severe cases of cerebro-spinal lues, simply an increase of pressure of the cerebro-spinal fluid, without leucocytosis or albumin, so that everything is not always absolutely concordant. But, practically, one thing is certain: that salvarsan must not be employed *in small doses* in the early stages of syphilis.

(*Ibidem,* June 17, 1912, lix, No. 24).

On the Indications of the Quartz Lamp in the Treatment of Skin Diseases. Thedering, p. 1316.

The Kromayer lamp is powerless in acne, folliculitis and rosacea. It has no special value in eczema, lupus erythematosus, nævi, nor favus. Its field of usefulness in lupus vulgaris is not clearly defined. On the other hand, it is excellent in hyperkeratosis, superficial mycoses, pityriasis rosea, alopecia areata, dilatation of the capillaries of the face and keloids.

(*Ibidem,* June 25, 1912, lix, No. 26).

On Neosalvarsan. Iversen, p. 1436.

Iversen has applied the Schreiber system of four injections, one every other day, 0.75 gm. to 1.2 gm. in men and 0.6 to 0.75 gm. in women. He had only one reaction (in a woman). The results have been excellent, owing to the higher doses which it is possible to employ in a short time. This wards off neurorecurrences, which are due to insufficiently strong treatment. With the possibility of grouping in a short time still higher doses of neosalvarsan neurorecurrences ought to be entirely avoided. This prompt action also prevents the development of later strains of parasites, which are immune to the bactericidal serum; a fact which can be demonstrated brilliantly on the spirochæta of relapsing fever. Finally, Iversen considers as of great advantage the lack of local reaction and the painlessness of intramuscular injections of neosalvarsan.

Annales des maladies vénériennes.

(May, 1912, vii, No. 5).

Abstracted by Faxton E. Gardner, M.D.

A Study of the Blood in Syphilitics Treated with Salvarsan, Levy-Bing, Dogny and Duroeux, p. 321.

1. As regards *coagulability*: Salvarsan increases the delay of coagulation from 15 minutes to 18 to 22 minutes; it decreases the coagulating power up to one or two weeks after the last injection.

2. As regards *hæmoglobin and red corpuscles*: There are no appreciable modifications.

3. As regards *white corpuscles*: Salvarsan *decreases* immediately the normal leucocytosis of the secondary period. It alters also the leucocytic formula; at first there remains a polynuclear leucocytosis with eosinophilia; later there is a mononuclear leucocytosis with myelocytes.

4. As regards *resistance of corpuscles to hæmolysis*: The first injection decreases it markedly, subsequent injections have less effect.

5. As regards the Wassermann reaction, no conclusions can be drawn.

(*Ibidem,* June, 1912, vii, No. 6).

Syphilitic Chancres of the Urethra and Meatus. Girard, p. 409.

Nine cases selected out of 15 seen by the writer.

Lo sperimentale.

(April 20, 1912, lxvi, No. 1).

Abstracted by A. Ravogli, M.D.

Contribution to the Knowledge of the Intimate Structure of the Blastomyces. Roger Verity, p. 1.

The technique for the morphological study of the organisms is accurately given. Fixation with glycerine-albumin is recommended. Aniline, or Ziehl's fluid may be employed for coloring purposes. The photographic methods of Golgi and Cajal and the tinctorial technique of Sanfelice (for the spores) are described. The organism has a capsule which is composed of three layers, the innermost of which is called the chromophyl. Inside of this layer is the protoplasmic content, in which small bodies are seen; these probably represent nuclei.

The author finds it very difficult to classify the various members of the saccharomyces. Some forms having similar or identical morphological characteristics, possess totally different physiological attributes. Blastomycetes from the tissues have a different appearance from those artifically grown. The former show a halo outside of the involucre which endures for some time and which is a part of the parasite. The nucleus has been described as oblong, round, irregular, etc. It has been asserted that the nucleus possesses ameboid motion. As it refracts light this body is extremely difficult of study.

GIORNALE ITALIANO DELLE MALATTIE VENEREE E DELLA PELLE.

(March 21, 1912, liii, No. 1).

Abstracted by A. RAVOGLI, M.D.

Public and Private Prophylaxis Against Venereal Diseases. MARIO TRUFFI, p. 8.

In Italy the social defense against venereal diseases is limited to dispensaries and venereal wards in hospitals and to the sanitary inspection of houses of prostitution. Eighty-five dispensaries are supported by the cities while a few depend upon private contributions. In cities with a population of over 40,000 gratuitous assistance is furnished to patients with venereal diseases. In regard to the inspection of prostitutes, the mistress of the house can select any physician, who must, however, be acceptable to the police inspector. This scheme has been a failure. The author points out the necessity of appointing for this work only physicians who have had special training in venereal diseases, dermatology and syphilology.

On the New Rules of the Rational Treatment of Syphilis. BARDUZZI, p. 17.

Many general practitioners and specialists in lines other than dermatology believe that iodine alone can cure syphilis. The author shows this belief to be erroneous. He is well pleased with salvarsan, but does not consider that it alone will cure the disease. The proper treatment is to employ both mercury and salvarsan. The Wassermann reaction is a great help, but must not be taken too seriously.

Two Cases of Tinea Microsporica from Microsporon Equinum. A. PASINI, p. 25.

Along with many instances of tinea trichophytina and favus, the author observed some cases of tinea microsporica that were due to the Microsporon Audouini and others in which the Microsporon iris was isolated. Recently he observed two cases of a third variety, namely, the Microsporon equinum. There is practically no difference in the clinical appearance in these affections.

Keratosis Follicularis Spinulosa Localized on the Face. BOTTELLI, p. 33.

The author states that this affection is frequently found on the neck, arms and legs, but that it rarely occurs on the face, although it is not infrequently seen on the scalp and temporal regions. The author's case was a girl who presented well-marked spinous plugs in the follicles of the face.

Dermatological Nomenclature. BARDUZZI, p. 37.

The author finds it necessary to have a clearer and more definite nomenclature in dermatology. He laments that some identical diseases have different names, while different diseases have the same name. The cause of this confusion lies in the fact that the names of a disease may originate both from the clinical appearance and from the histological structure. He insists on the necessity of a definite and precise meaning being given to each dermatological name which represents a cutaneous affection. He proposes many modifications and changes in the whole nomenclature.

On a Case of Neurodermatitis Linearis Psoriasiformis. Vignolo-Lutati, p. 42.

The author refers to a case of dermatitis of the thigh, which showed a linear disposition. It had a red, small-papular base and was covered with hard, thin, dry scales. The eruption followed the course of the crural nerve. He differentiated the affection from psoriasis, which sometimes may resemble this disease, by a microscopical examination.

On the So-Called Lichen Albus of Von Zumbusch. Vignolo-Lutati, p. 51.

Vignolo-Lutati refers to a case of an extensive papular eruption accompanied with severe itching, which in some parts of the body was a typical lichen planus, but in other parts the papules were waxy white and had not that mosaic-like appearance. The papules were examined under the microscope and as a result of the findings the author believes that the lichen albus of von Zumbusch is the same as the sclerotic form of the lichen planus of Wilson.

Researches on the Organic Changes in Some Syphilitics Treated with Salvarsan. Cappelli, p. 65.

The question of the action of salvarsan on the general system is still open for discussion. A beneficial influence of this remedy on the general nutrition is clear, but the way in which it occurs is not yet determined. The author selected five patients with syphilis at different periods and in rather a run-down condition. The intake and output of nitrogenous and hydrocarbon substances were tabulated both before and after the injection. After an intravenous injection, the nitrogen ingested was 6 gm. less, and yet the quantity excreted increased 2 gm., which the author attributed to the Herxheimer reaction and to a slight fever. After this the quantity of nitrogen ingested was superior to that excreted, giving a constant daily surplus of 1.80 gm. The diminution of nitrogen in the form of urea is quite perceptible.

In syphilis an alteration in metabolism takes place, increasing the decomposition of albumin, and consequently there is a difference between the nitrogen ingested with the food and the nitrogen excreted with the urine and fæces, showing a remarkable loss. It seems that after the second day from the injection a period of gain follows, which the author explains as a diminished decomposition of the albumin, with diminution of urea and with increase of the nitrogenous intermediate compounds.

Area Celsi and Syphilis. Cappelli, p. 87.

Cappelli made a study of 100 cases of area celsi: in 88 no traces of syphilis could be detected; neither hereditary nor acquired. In four suspicious cases the serodiagnosis was negative and a specific treatment entirely useless. In eight cases the area celsi had appeared before acquiring syphilis. In the remaining cases the area celsi had occurred at a very late period of syphilis. The author concludes that between area celsi and syphilis there is no relation whatever.

Notes on Syphilis in the Rabbit. Truffi, p. 94.

Truffi states that by cutaneous inoculation with syphilitic virus, lesions can be produced in the rabbit, which not only remain on the locality inoculated, but are followed by general infection. He could see small tumors of the size of a pea on the tunica vaginalis following the inoculation, which under the microscope showed spirochætæ. In three rabbits these nodules affected the substance of the testicle. Infiltrations in the cornea resembling those produced

by direct inoculation and hard nodules on the eyelid three months after the syphilitic inoculation occurred. In reference to experiments with intravenous injections of sublimate and hectine, the author could see no prophylactic action.

Inoculation of Leprous Tissues in the Anterior Chamber of the Eye in the Rabbit. Truffi, p. 96.

The author refers to a communication of Stanziale, who claimed to have obtained granulomata after the inoculation of leprous tissue in the anterior chamber of the eye of the rabbit. Truffi inoculated a series of rabbits with material taken from a leprosy nodule, which showed a large quantity of bacilli. After the inflammatory reaction had subsided in the eye, it was found that the piece of leprous tissue had embodied itself in the cornea and iris. After two months the eye was removed and studied under the microscope. The cornea was turbid, thick, congested, and adherent to the implanted tissue, which contained living organisms of leprosy. In the surrounding, inflamed tissues the bacilli were very scarce. In one small nodule in the iris no bacilli could be found. There was no evidence of constitutional leprosy. From these results the author claims that although he was able to produce granulomatous tissue containing Hansen bacilli, yet it cannot be said that he produced the disease experimentally. The experiments prove that leprous tissue may remain for some time *in situ* and that the bacilli may live for a long time in that tissue. It also proves that the lepra bacillus can be cultivated.

Purpura Annularis Telangiectodes (Majocchi). Truffi, p. 107.

Truffi refers to a case of this affection, which occurred in a strong young man, 22 years old. The eruption at first began on the legs and then gradually extended to the abdomen, the back, and a few spots developed on the upper limbs. The lesions were hæmorrhagic points, round and of varying color, according to the age of the eruption. There was a distinct annular configuration. The lesions were in general symmetrical. It seems that they had their origin in a punctiform hæmorrhage, which gradually extended, forming the peculiar ring. The use of arsenic gave beneficial results.

Onychomycosis Trichophytina. Truffi, p. 114.

A case of trichophytic affection of the nail in a child 18 months old.

A Case of Anaphylaxis for Scarlet Red. Lombardo, p. 120.

The author states that the application of a salve consisting of vaseline and scarlet red has been well tolerated by most of the patients and has given good results. In one case, however, a violent dermatitis developed, which compelled a discontinuance of its application. After the dermatitis had subsided, in order to remove possible irritation from other causes or from a decomposition of the salve, another application was made. The salve was freshly prepared and contained only 1% of scarlet red. Twenty-four hours later the dermatitis reappeared, showing that the patient could not bear the preparation on account of hypersensibility, or local anaphylaxis.

The Wassermann Reaction in Cases of Sudden Deafness. D'Amato, p. 126.

D'Amato refers to a case of sudden deafness in a boy of 16. The Wassermann was positive; the father had lues. The author states that in acquired syphilis the luetic alterations of the ear are mostly in the Eustachian tube. Gummata and periostitis are usually accompanied with pain. In many cases

the alterations of the hearing power are due to involvement of the pharynx. In the severer forms, two or three years from the infection, deafness may result from arteritis obliterans of the blood vessels of the labyrinth. This may occur either in the form of progressive or of apoplectiform deafness, preceded by vertigo and unnatural noises.

In hereditary syphilis deafness may occur from suppurative otitis in infancy, or in the first years of life. Hereditary syphilis of the internal ear is likely to produce sudden deafness at about the age of puberty. The application of the Wassermann test explains in most of the cases the origin of the deafness.

Clinical Contribution to the Therapy of Syphilis with Arsenobenzol. Simonelli, p. 129.

Simonelli praises the remedy for the superior clinical results and for its effect on the Wassermann reaction, but he does not consider that the theory of sterilization has been practically attained.

On the Pathogenesis of Erythema Pernio. Simonelli, p. 137.

The author has made a series of experiments on rabbits, subjecting them to low temperatures for some time. From his experiments he would maintain that erythema pernio is not due entirely to circulatory disturbances, but rather to a weakening of the system. Repeated exposures to cold produced some changes in the albumins of the tissues, which might act as antigen, causing in the organism the production of specific antibodies. These antibodies remaining in the circulation act on the tissues which are exposed to low temperatures.

Contribution on the Rules of Prophylaxis in Venereal Diseases. D'Amato, p. 140.

D'Amato believes mostly in individual prophylaxis. He claims that if public measures of surveillance are of some good in reference to public prostitution, yet they have no effect on clandestineness. He believes that the only way in which progress can be made is in the proper sexual education of children and adolescents.

On the Clinical Value of Anaphylaxis in Dermatology (Preliminary Note). Barduzzi, p. 142.

After a careful explanation of the doctrine of anaphylaxis, the author sees very little difference between idiosnycrasy and anaphylaxis. He thinks that only from the presence of minimal quantities of anaphylizing and immunizing substances in the blood and in the tissues can be explained the phenomenon of idiosyncrasy. It is the individual predisposition that allows certain substances to produce alarming symptoms in certain persons. Toxic substances which are formed in the blood or in the organic fluids act on the nerve cells. He finds that anaphylactic manifestations in animals and in man differ. In the latter are found fever, cutaneous eruptions, œdema and collapse, while in animals fatal collapse is often the only observable manifestation.

Urticaria is due to anaphylaxis and not to a form of endarteritis caused by thrombi composed of the toxic substances. The symptoms are produced by an irritation of the endothelium. Toxic erythema must be referred to the anaphylactic group. The author claims that the defense of the organism against toxic elements is diminished in direct ratio to the increase of anaphylaxis. He also avers that the predisposing causes to many skin eruptions will be found in the individual anaphylactic condition. This will be the foundation

to the new pathogenesis of many diseases which will form an important chapter of the new dermatology.

Polymorphous Erythema of the Mucosa of the Mouth. Terzaghi, p. 146.

Terzaghi reports a case of polymorphous erythema of the face, arms and buccal mucosa, associated with gastro-enteritis. Histologically, he finds the same pathological lesions, consisting in an inflammatory process, in the mucous membrane of the mouth, as those which were found in the skin. There was, also, an infiltration of the peri-vasal lacunæ of the tongue.

The Action of the Roentgen Ray on the Blood in Neurotic Persons. Terzaghi, p. 146.

The author treated a girl affected with prurigo mitis. On square pieces of blotting paper saturated with a solution of ½% permanganate of potassium he placed drops of blood from this patient and as controls he utilized blood from healthy individuals. The blood of the patient did not assume a uniform yellow color, but in the middle showed a dark-brownish area. One of the legs of the patient was exposed for 15 minutes to the X-ray. Blood was taken from the exposed and from the non-exposed leg and dropped on pieces of blotting paper treated with permanganate of potassium. This showed that the blood from the leg treated with the X-ray had undergone better oxidation (demonstrated by a uniform yellow hue), while the blood of the other side not exposed to the X-ray gave a different color (a dark-brownish color). From these observations Terzaghi concludes that the difference in the blood of normal and of neuropathic persons is due to molecular disintegration, which is produced by the physical action of the Roentgen rays on the blood of neuropathics.

Lupus and Epithelioma: Syphilis and Epithelioma. G. Garibaldi, p. 149.

Garibaldi considers the chronic syphilitic processes of the mucous membranes and the specific hyperkeratoses of the palms, which are so obstinate to treatment, as the possible beginning of epithelioma. He claims that syphilitic or tuberculous toxines may produce epithelial changes that develop into epithelioma. He refers to two clinical cases: an epitheliomatous ulcer secondary to a syphilitic lesion on the face of a woman, and a man with malignant degeneration of a nodular lupus of the face. The author has referred to these two patients in order to show the existence of a certain relationship between the evolution of carcinoma and of epithelioma on chronic lesions of syphilis and tuberculosis. He believes that in tuberculosis and in hereditary syphilis the toxic elements produce an injury to the blastoderm, paving the way, indirectly, for future malignant neoplasma.

Salvarsan in Papular Syphilides. A. Galimberti, p. 157.

With the help of photographs, Galimberti shows the great therapeutic value of salvarsan in dry, papulo-squamous forms of syphilitic eruptions.

On the Production of Specific Antibodies in Rabbits Treated with Nucleo-proteids from Syphilitic Organs. G. Di Cristina and M. Cipolla, p. 160.

The purpose of the authors has been to try, if possible, to obtain in rabbits a specific amboceptor by feeding them on non-infectious syphilitic material. For this purpose they have used a nucleo-proteid extracted from the liver of syphilitic fœtuses. These organs, after having been freed of blood, were treated with a 5% solution of sodium carbonate, then saturated with chloroform and left for

48 hours at a temperature of 37°C. This was filtered and the clear part was precipitated with very dilute acetic acid. The sediment was washed and redissolved in a 5% solution of sodium carbonate and again precipitated. The last sediment was dried in the form of small lamellæ, soluble in an alkaline solution. This substance was injected into the veins of three rabbits, one of which died. In the sera of the other two, after ten days, was found a specific amboceptor. These rabbits had further injections of the same fluid without injury.

The Sporozoan of Molluscum Contagiosum. Campana, p. 162.

Campana describes and presents a photomicrograph of the organism of molluscum contagiosum.

(*Ibidem,* June 5, 1912, liii, No. 2).

The Treatment of Syphilis with Salvarsan. P. De Favento, p. 177.

One thousand cases of syphilis were treated with salvarsan, two and sometimes three injections being given. The intravenous method is the only one used, all others having been abandoned. The ages of the patients varied between 8 and 75 years. All stages of the disease were treated and in all instances the symptoms quickly subsided. In primary syphilis salvarsan was given with the idea of aborting the disease. In some cases of syphilis two injections were given one month apart. In other instances six calomel injections were administered between the two salvarsan infusions. In nearly all the cases the Wassermann was positive before the injections and negative after the treatment. In two patients the Wassermann remained negative for 18 months. The author does not think that salvarsan cures syphilis, but considers it a most important remedy to employ in connection with mercury. The author refers to one death and to four cases presenting alarming symptoms after the intravenous injection of salvarsan. He considers these untoward results to be due to bacterial products in the water.

On Some Histological Findings in Cases of Lupus Vulgaris Treated with Solid Carbon Dioxide. Guiliano Guiliani, p. 185.

Guiliani has employed this therapeutic measure in the treatment of lupus vulgaris, lupus erythematosus, tuberculosis verrucosa cutis, epithelioma, vascular nævi, furuncles, carbuncles, etc.

Histologically, he was able to distinguish two separate effects: necrobiotic, and inflammatory or reactive. The histological studies were limited to the effect of the snow upon lupus vulgaris, and embraced sections made at intervals of from a few hours to 26 days after the application. The changes occurring after refrigeration and after the use of the Finsen and Kromayer lamps were fundamentally the same. The snow produces a deeper penetration than the Kromayer lamp. The penetration is not as deep as that obtained with the Finsen light, but is considerably more rapid. The solid carbon dioxide produces a reactive exudation, an actual destruction of the diseased tissue and a proliferation of normal connective-tissue elements. The resulting scar is very esthetic.

On the Cutaneous Alterations of Sclerema. Enrico Mensi, p. 210.

The author states that to the two clinical types of sclerema, one where the skin is thick and succulent, the other where the skin is thin, atrophic and parchment-like, a third form must be added, which is between the two. The histo-

pathological findings in the first type consist of atrophy of the epidermis (excepting the granular layer) with a thickening of the cells and fibres of the derma. The subcutaneous tissue is well preserved. In the second type the epidermis is atrophic, the derma possesses sclerotic fibres and few cells and blood vessels can be seen. The subcutaneous tissue presents an areolar appearance due to a diminution of the fat cells. The author reports four cases of sclerema in children. The most important lesions are in the derma due to atrophic changes in the connective tissue, which is followed by atrophy of the epidermis.

A Case of Configurate Erythema of the Face. Ludovico Tommasi, p. 213.

The author reports a case of polymorphous erythema of the face with histological sections.

An Interesting Case of Fulmination. Angelo Lama, p. 223.

The author reports the case of a woman who was struck by lightning. There were burns on the left shoulder, left side of the neck, left arm, thorax, abdomen and the right leg. The configuration, locations and ramifications of the lesions were interesting and traced the course of the electricity. Some of the burns were of the first degree, while others were very severe. The patient, who was pregnant, recovered and gave birth to healthy twins.

Remarks on the Communication of Prof. Truffi: "Inoculation of Leprous Tissue in the Anterior Chamber of the Eye in the Rabbit." R. Stanziale, p. 225.

The author claims to have succeeded in producing leprosy by placing a piece of leprous tissue in the eye of the rabbit. This was objected to by Prof. Truffi, who stated that: "Against the acceptance of a successful transplantation of leprous tissue, is the possibility of the formation of granulomatous infiltrations around foreign bodies without the intervention of living germs reproduced in the locality."

Stanziale vigorously attacks this objection, basing his views on the experiments of inoculating pieces of leprous tissue which did not produce a granulomatous formation. Moreover, he finds in his experiments that the lepra bacilli lived and acquired the Unna stain readily. He also objects to the statement of his opponent that the organisms isolated were phagocytes.

Report of the Seventh International Congress of Dermatology and Syphilology. p. 288

Archives of Internal Medicine.

(May 15, 1912, ix, No. 5).

Abstracted by Harvey P. Towle, M.D.

The Value of Absorption Methods in the Wassermann Test. C. H. Bailey, p. 551.

The motive which led Dr. Bailey to this investigation is revealed by the first paragraph of his paper: "It is conceded by most observers that in working with a hæmolytic system it is advisable to use known amounts of both amboceptor and cells. Wassermann's original method for the diagnosis of syphilis makes use of 1 cc. of a 5% suspension of corpuscles with just twice the amount of

amboceptor necessary to hæmolyze these cells. Since the discovery of the existence of anti-sheep amboceptor in some human sera, it has been questioned whether this additional amount of amboceptor might not be sufficient to produce hæmolysis in conjunction with a small residue of complement not fixed in the first stage of the reaction. If this should occur negative results would thus be obtained in syphilitic cases."

After discussing the various methods by which this anti-sheep amboceptor is removed from the test serum, Bailey gives the results of his investigations. He tried the method proposed by Jacobaeus, in which the anti-sheep amboceptor is removed by incubation and centrifugalizing of the cells, in a series of 305 sera. He then compared the result of the Jacobaeus reaction with the result of the Wassermann reaction on the same sera. In 195 of the same sera Bailey also used the Rossi technique (incubation at 0°C. for 20 minutes) in addition to the Jacobaeus and found the method to be equally efficient in absorbing the anti-sheep amboceptor. "So far as the avoidance of inhibitory action is concerned, it was unsuccessful, there being little, if any, difference in this regard between the two methods."

"From the above cases and experiments, I conclude that it is possible for anti-sheep amboceptor in human serum to affect the Wassermann reaction, but that when the antigen of high titer is used this is possible only with sera of very low antibody content and several units of anti-sheep amboceptor. These conditions, in my experience, rarely occur in practical work. I feel that, when a strong antigen is used, the importance of the anti-sheep amboceptor in human serum as the cause of a negative reaction in syphilitic cases is not great. As a routine procedure, the absorption of amboceptor is unnecessary. Its removal from sera which give a negative or doubtful reaction and which contain a large amount of anti-sheep amboceptor, is however, advisable. This is easily accomplished by digestion with sheep cells. It is immaterial whether this is done at 0°C., 37°C., or at room temperature."

The Occurrence of Native Sheep Amboceptor in Human Serum and Its Importance in the Performance of the Wassermann Reaction.

Richard Dexter, and C. L. Cumner, p. 605.

The discovery that certain human sera contain a native substance which is able to influence the Wassermann test in the absence of an artificial amboceptor is exciting considerable interest among serologists. It is evident that if it is of frequent occurrence in human blood or in considerable amount, the fact might explain certain vagaries in the behavior of the Wassermann test. It is for this reason that serologists have undertaken its study. Bauer has even devised a method by which this human anti-sheep amboceptor was substituted for the rabbit anti-sheep amboceptor used in the regulation Wassermann test. His idea was to simplify the technique by eliminating one reagent without, however, sacrificing the accuracy of the test.

Acting upon Swift's suggestion, Dexter and Cumner in their method added to the Wassermann system a new control tube containing the ordinary amount of complement and sheep-cell emulsion, but only one-half the usual amount of human serum. If hæmolysis occurred in this control tube it might "give a clue to the cause of negative findings with certain sera and would justify repeating the reaction with the Bauer modification." Dexter and Cumner first incubated the control tube (containing only the patient's serum, complement and cell emulsion) for one hour "during which time the reactions undergo their first incubation." If at the end of the hour, hæmolysis is complete in the control tube, the test is performed without the addition of artificial amboceptor, depending upon the "native amboceptor" to carry out the reaction. "We have

controlled 1,686 reactions in the above manner and have found sufficient amboceptor in 301 sera (17.9%), while in 1,385 (82.1%) there was either none or an insufficient amount."

In order to determine how far the addition of the usual amount of artificial amboceptor could affect the positive Wassermann reactions in sera which showed a sufficient native anti-sheep amboceptor content, the writers performed two separate tests on each serum. One reaction was carried through after the Bauer method, *i. e.,* without the addition of artificial amboceptor. The second reaction received the usual dose according to the ordinary Wassermann method. A large number of sera was tested by this double method, of which 77 showed a positive reaction to the Bauer modification. "Of the 77 positive reactions, 49, or 63.6%, remained unchanged by the addition of artificial amboceptor; while 28, or 36.4% were changed by the addition of artificial amboceptor; 16 of the 28 reactions were classed as strongly positive. Of the 16, 7 were changed to positive, 3 to feebly positive, 4 to plus-minus reactions, and 2 became negative. Six reactions were classed as positive. Of these, 2 were changed to feebly positive, 2 to plus-minus, and 2 became negative. Six reactions were classed as feebly positive. Of these, two became plus-minus reactions and four became negative. Of 8 reactions classed as plus-minus which were not included in this table, all became negative.

Conclusion: "It seems justifiable to conclude that while the presence of a native anti-sheep amboceptor in human serum is by no means constant, it is essential to take note of its presence or absence in performing the complement fixation test for syphilis by the Wassermann method, and, if this precaution be not taken, a certain and by no means very small percentage of positive reactions will be recorded as negative."

Bulletin of the Johns Hopkins Hospital.

(May, 1912, xxiii).

Abstracted by Harvey P. Towle, M.D.

The Behavior of the Blood Platelets in Toxæmias and Hæmorrhagic Diseases. W. W. Duke, p. 144.

The writer studied 31 cases of hæmorrhagic diseases with especial reference to the relationship of the platelet count to the hæmorrhage. He also relates clinical and experimental results, which, he believes, throw light on some of the factors which cause pathological fluctuations in the number of platelets. The normal platelet count is stated to vary from 200,000 to 400,000. In the 31 cases investigated, there were found 17 cases whose count was normal or but slightly increased. In 14 cases the count was excessively low, under 65,000. Rejecting the 17 cases whose platelet count was normal, or nearly so and therefore not remarkable, Duke limited his further studies to the 14 cases which showed such great diminution. He discovered that these 14 cases showed many clinical differences from the group with normal counts. "In fact, the outspoken cases of the low platelet group presented a symptom-complex simulated in its entirety by none of the cases having high counts." The severer cases of this group were those of purpura hæmorrhagica. The milder forms of this disease sometimes displayed almost no purpura and little or no hæmorrhage. The severer cases and often the milder, showed one common symptom, *i. e.,* they invariably manifested a tendency to bleeding from every abrasion of the skin. The bleeding time was found abnormally lengthened, varying from twenty minutes to two hours; a symptom which Duke considers the most characteristic mark of purpura hæmorrhagica.

A study of the platelets in connection with the hæmorrhages, developed the fact that in every instance where bleeding continued more than ten minutes, the platelets were tremendously reduced in number. In every case the count was below 65,000. Even in mild cases, the number ran under 10,000, while in the severer forms of the disease it dropped below 1,000. Several writers have said that, in their opinion, this decrease in the number of platelets in the blood constitutes the characteristic mark of purpura hæmorrhagica. Duke agrees that it is the most pronounced characteristic of the disease but nevertheless does not consider it absolutely pathognomonic as he has met with the same condition in several cases of hæmorrhage due, in part, to local causes. A decreased count has also been recorded in connection with other diseases. One characteristic, however, which the cases of purpura hæmorrhagica possessed, was missing in these exceptional cases with a low platelet count; the bleeding time was normal in them all in contrast to the always present prolongation in cases of purpura hæmorrhagica.

The author tried direct transfusion of blood in three cases for the relief of the tendency to hæmorrhage. Although the effect was immediate and the relief complete, they were only temporary. The platelet count rose at once after the operation, but no other change in the blood could be demonstrated. Two cases, which before transfusion gave a platelet count of 6,000 and 20,000 respectively, showed directly after the operation an increase, in the first case, to 129,000 and, in the second, to 89,000. For three days there was an absence of the hæmorrhagic tendency. The day following the transfusion the number of platelets began to diminish again. The drop continued steadily until by the fourth day the count had reached its previous low level. By this time, also, the tendency to bleeding had returned. During this period of change in the platelet count and the bleeding tendencies, the coagulation time of the blood was systematically observed, but no alteration was discovered. Therefore the improvement in the hæmorrhagic conditions was attributed to the increase in the number of platelets. Continued study showed that the hæmorrhagic diathesis and the platelet count ran parallel courses. With a lowering of the count there occurred a corresponding increase in the tendency to hæmorrhage. Vice versa, with every improvement in the count there was a parallel improvement in the hæmorrhagic proclivity. Duke then attempted to reproduce the conditions of purpura hæmorrhagica in animals. Forty-one were injected with benzol or tuberculin or diphtheria toxine. Only one gave positive results. In this animal, there occurred symptoms, analogous clinically to those in man and which were accompanied by a lowering of the platelet count.

As the number of platelets in the blood has invariably been subnormal in every case of hæmorrhagic diathesis, whether the purpura hæmorrhagica was or was not associated with another disease, Duke concludes that the decrease in the platelets must have an ætiological connection with the tendency to bleeding. In discussing the reasonableness of this conclusion, Duke makes the statement, among others, that when a thrombus is composed of blood deficient in platelets, it clots within normal time limits, but does not contract and squeeze out serum after the manner of a normal clot. He thinks that this contractibility on the part of platelet-poor clots may perhaps account for the prolonged bleeding observed in purpura hæmorrhagica. From observations made in his experimental work, the author concludes that, while large doses of diphtheria toxine bring about a reduction in the number of platelets, a sublethal dose causes a primary rise in the count which is followed by a later fall. Moreover, this also seemed to be the general rule after the injections of benzol. But tuberculin, even in large doses, caused an increase only.

The final deductions are that, in many diseases, the action of a toxine on the platelet-forming elements is responsible for the pathologic variations in the platelet count. Duke believes, further, that a large dose of the toxine acts as a poison. If the irritant is powerful it may produce either an increase or a decrease in the platelet count. If, however, the irritant is mild, the usual effect on the count is an increase.

American Journal of the Medical Sciences.

(May, 1912, cxliii, No. 5).

Abstracted by Harvey P. Towle, M.D.

Treatment of Acne with Stock and Autogenous Acne Bacillus Vaccines. E. D. Lovejoy, p. 693.

The writer reports, in gross, about 50 cases, most of them well advanced and showing indurated and pustular lesions. "About one-third were treated by staphylococcic vaccine alone; of the remainder some were treated by autogenous vaccine, while for the rest a polyvalent stock emulsion was used, made up from cultures obtained from the first series."

The injections were begun with a dosage of 3,000,000 acne bacilli and 150,000,000 staphylococci. The dose of the first was never raised above 5,000,000, nor of the latter above 250,000,000. The intervals between injections averaged about five days. Both stock and autogenous vaccine cases were treated as nearly alike as possible. The results were about the same. Old emulsions are thought to produce a more rapid immunity with less reaction or anaphylaxis. In general, this article lacks differential details.

(*Ibidem*, June, 1912, cxliii, No. 6).

A Recurrent Disease of the Skin Associated with High Winds and Cold Weather, for which the Name Dermatitis Hiemalis Has Been Proposed. William Thomas Corlett and Harold Newton Cole, p. 710.

This article furnishes still further details of this affection, thus supplementing previous reports. The evolution of the disease is summarized as follows: "Given a susceptible person, the variable, wintry, windy weather as met with in the Great Lake region of North America, causes an irritation of the skin of the hands, resulting first in a slight vascular dilatation of the vessels of the papillæ. The endothelial cells lining the vessels swell up and, if the condition continues, there will result the extravasation of some serum from these vessels into the papillary tissue. Possibly a few polymorphonuclear leucocytes will also find their way into the surrounding tissues. The irritation still continuing, there will be a constantly increasing vascular dilatation and, a larger amount of serum being poured out, it will gradually work out through the lymph channels of the epidermis, resulting in a higher or lower grade of œdema. And, as has been shown, even a slight grade of œdema will exercise quite a marked influence on the process of cornification, resulting in a parakeratosis. The process of exudation of the serum from the papillary capillaries, with the passage out of leucocytes and red blood cells, may be very rapid in its course. Then this exudate, working out from the papillæ, through the lymph channels into the epidermis, may cause such a sudden strain on the intercellular bridges of the prickle cells that they are no longer able to withstand and they burst. Such a condition we find in Fig. 10,

when the vesicle is deep in the stratum spinosum. However, suppose the œdematous area is situated high up in the epidermis and that the area is covered only by a few layers of rapidly and incompletely cornified cells. Then, when the pressure becomes too great, the vesicle may break outward and we find such a picture as is shown in Fig. 3, the vesicle containing fibrin, broken-down leucocytes, and red blood cells. Such an exposed area is soon changed into a crust of coagulated serum, broken-down epithelium and at this time we almost invariably find a secondary growth of Gram-positive skin cocci in the crust. There are also more or less changes in the deep corium due to the ætiological factor before mentioned, in connection with the irritation of broken-down cellular products, etc. Here, too, the vessels become dilated, the endothelial cells swollen and an exudate of serum and polymorphonuclear cells is poured out into the surrounding tissues, resulting in a perivascular œdema and inflammation. Indeed, the perivascular œdema may be so marked at this time that the tissues are entirely forced apart and broken up.

"Again, suppose the irritation has continued for some time, then we will find an even more severe type of change around the vessels of the corium. There is a heavy exudate of serum and leucocytes, the latter mostly small in type, with an occasional eosinophile and endothelial cell. The collagen fibres are swollen, forced apart and stain poorly, while their nuclei are flattened from the pressure of serum in the tissues. The elastic fibres are also forced apart. The result of the copious supply of serum from the papillary vessels to the epidermis is that the cells receive better nutrition than normally so that they are continually bathed in serum. Instead of drying up they will continue to assimilate nutrition and to multiply, both by direct and indirect division. The result is the production of a thickened epidermis, showing an atypical process of cornification (parakeratosis). Moreover, examination shows us long interpapillary processes of epidermis made up of large, healthy looking cells, showing numerous mitoses and apparently growing down into the corium as well as upward (acanthosis). This is the intermediate step between the acute and the chronic process as shown in Fig. 6. Crusts may or may not be present.

"As the chronic stage begins to appear we find certain vascular changes that have a very important bearing. From the long-continued irritation we not only have the perivascular exudate already spoken of, but as in Fig. 12, the vessel walls become thickened and a few young fibroblasts are seen in the walls and in the surrounding tissues. This thickening of the vessel walls tends to reduce the blood supply and consequently the œdema, so that once more we have a return of the tissues to the normal, from the decreased vascular supply. Such a condition is shown in Fig. 7, where a thickened, evidently long-irritated epidermis is shown undergoing a normal process of cornification, though it still retains a crust above it, revealing an old process as yet incomplete.

"Either the healing takes place through a process of chronic inflammation, as outlined above, or at the approach of Spring the changeable, windy weather no longer irritates the susceptible parts, so that even though the process be acute, by removing the causative factor the condition tends to subside from lessened blood supply and thus a return to the normal is found."

(*Ibidem*, July, 1912, cxliv, No. 1).

A Clinical Note on Verruca Plantaris. Richard L. Sutton, p. 71.

After a short disquisition upon the nature and ætiology of plantar warts, Sutton gives the clinical histories of two cases. He particularly recommends the treatment by the method of refrigeration.

New York Medical Journal.

(June 8, 1912, xcv, No. 23).

Abstracted by Frank E. Simpson, M.D.

Alopecia; Types and Treatment. Isadore Dyer, p. 1192.

Dyer divides alopecia, the generic term for baldness, into two general types: a. idiopathic; b, symptomatic. The first type includes congenital, senile and premature alopecia. The second type of baldness is due to a large number of local or general causes, each of which is efficient in causing the condition.

Alopecia from seborrhœic dermatitis is most common. For this condition Dyer advises the discarding of the brush as a nest of infection and the use of the usual remedies in lotion or ointment form. Months may be required for recovery. Alopecia sicca, a disease almost peculiar to children, is treated by removal of the scales with warm flaxseed poultices and the inunction of bland oils. Free daily washing is recommended and the rapid restoration of the hair will occur. Alopecia from eczema lasts only as long as the inflammatory process. Alopecia from lupus erythematosus is permanent. Alopecia from lupus vulgaris is very rare and is also permanent. Alopecia from parasitic diseases is common.

With ringworm infection, the baldness is usually temporary, while with favus it is often permanent. X-rays and 20% oleate of mercury ointment are advised. With pediculosis capitis baldness may occur if deep secondary infection of the hair follicles is present. The baldness due to syphilis, psoriasis, fevers, ichthyosis, leprosy and variola are commented upon. The theory of a neurotic origin of alopecia areata is adhered to, although the possibility of a parasitic cause is noted. In general the treatment of baldness depends on the ætiology.

Medical Record.

(June 22, 1912, lxxxi, No. 25).

Abstracted by Frank E. Simpson, M.D.

An Epidemic of Epithelioma (Molluscum) Contagiosum, with Some New Observations Concerning the "Molluscum Bodies." M. B. Hartzell, p. 1171.

Hartzell notes the rarity of molluscum contagiosum. In 10 years an average of a case a year was treated at the skin dispensary of the University Hospital of Pennsylvania. Then, in 1907 and the three succeeding years, no less than 48 cases were seen, most of them from a large institution for young men.

Upon examination of part of the student body, 5% were found affected, about 250 or 300 cases. Other interesting features of the epidemic were—its limitation to the covered parts of the body, especially to the posterior surface of the trunk and the arms; the number of lesions present, in some cases several hundred; the presence of itching and consequent inflamed and excoriated lesions. The epidemic was thought to be due to the promiscuous use of bath towels in the gymnasium. With the adoption of simple precautions in this respect new cases ceased to arise. The most effective treatment for the disease was found to consist in the application of pure carbolic acid by boring into the central punctum a wooden applicator previously dipped in the acid. The mode of transmission of the disease may apparently be indirect, by means of towels, etc., or direct, as when a mother's breast is inoculated by her nursing infant.

Usually of human origin, there is evidence for the statement that it may be

derived from the pigeon, dog and other domestic animals. The literature of the disease is large because it is the only example of an epithelioma due to an infection, although the infective agent is unknown. There has been much discussion as to the nature of the "molluscum bodies," the peculiar cells found in the interior of the tumors. At first regarded as parasites, Neisser and others still consider them as such. Most believe them to be simply degenerated epithelial cells.

C. J. White regards the change in the cells as due to the abnormal production of keratin. Hartzell has made histological studies of four tumors. One, stained by the Levaditi method, revealed new and interesting features. Three distinct forms of cells were observed in the area occupied by the molluscum bodies. First, cells in the centre of the tumor, which were large, round or irregularly rounded, with double-contoured walls and segmented contents and an eccentrically placed nucleus. Second, cells which were much less numerous, oval in shape, had a thick laminated wall, with oval nucleus situated at one pole of the cell. Some of these cells were found lying partly within the cells of the first variety. This observation is new. Third, cells, which were the smallest and least numerous, presenting a perfectly oval body with distinct double-wall without nucleus. These were so deeply stained that details were unsatisfactory. This is a form of cell which has not been hitherto described. The large cells first described are believed to represent some form of degenerated epithelial cell the nature of which is uncertain.

(*Ibidem*, June 22, 1912, lxxxi, No. 25).

A Case of Bone Syphilis Masquerading as Tuberculosis. Leonard W. Ely, p. 1179.

Ely reports the case of a physician with negative history, who, at the age of 33, developed swelling of the left index finger, the sternum, the left wrist and the left knee. There was, also, at times, afternoon rise of temperature. The Wassermann was negative, the von Pirquet was positive and a pathologist reported, after examining some of the tissue from the finger, that the disease was tuberculosis. The forefinger had been amputated prior to the author's observation. A radiographic examination of the joint suggested syphilis and upon the administration of mercury and iodide and two injections of salvarsan, complete recovery occurred.

Journal of the American Medical Association.

(June 29, 1912, lviii, No. 26).

Abstracted by Frank E. Simpson, M.D.

Some Uncommon and Often Unrecognized Forms of Toxic Dermatitis. Joseph Zeisler, p. 2024.

Zeisler calls attention to the dermatitis caused by veronal, primrose plants and hair dyes. With reference to the first mentioned substance he reports the case of a man who, 12 to 18 hours after taking 5 to 8 grains of veronal, developed marked itching of the glans and prepuce. Examination disclosed several round, reddish patches which became, in a day or two, bright red, tense, somewhat swollen and even showed serous exudation. Finally, superficial crusting and desquamation terminated the process in 8 to 10 days from the onset. The relation of the ingestion of veronal to the eruption was borne out by the occurrence of three attacks. A second similar case is briefly noted.

The author also alludes briefly to about 25 cases of primrose dermatitis in his own practice and the similar experiences of other dermatologists. Treatment consists in the application of 96% alcohol which dissolves the poisonous oil of the

plant, followed by soothing local measures. Hair-dye dermatitis is referred to and the importance of its recognition is urged.

(*Ibidem*, July 6, 1912, lix, No. 1).

A Case of Pityriasis Rubra (Hebra). H. J. F. Wallhauser, p. 10.

Wallhœuser reports a classical case of pityriasis rubra. The patient was a male Russian, aged 50 and the disease had extended over a period of 32 years. He was under the author's observation for the last 10 years of this period. Hyperæmia, exfoliation of small scales and atrophy of the skin with resulting ectropion were the main features. The hair, including the lanugo hairs, disappeared from the body. Keratotic excrescences on the face had at one time suggested to some observers mycosis fungoides. A year before death, pea-sized ulcerations developed over several bony prominences. An ulceration developing over the left external malleolus assumed such proportions that the leg was amputated at the middle one-third. Three weeks later a similar condition developed over the external malleolus of the right leg. Death soon occurred. Histological examination of excised skin disclosed as the most important finding a degeneration of the vessel walls.

Cancerous Degeneration in Chronic Leg Ulcer. William S. Gottheil, p. 14.

Gottheil believes that irritation from various chemical, mechanical, microbic and physical agents is a factor in the development of cancer. The various factors almost always present in varicose ulcer of the leg, such as neglect, filth and irritation from foul secretions, would lead to the presumption that carcinomatous degeneration in this condition would be common. The reverse is the fact and a search of the literature has revealed only ten recorded cases. To these Gottheil adds three more. The chief objective sign that differentiated these from simple ulcus cruris was the presence of tumor masses elevating the edges. Microscopic examination of sections showed all three to be cancerous. Amputation of the leg was carried out successfully in one case, but the other two refused operation and were lost sight of.

Successive Cow-pox Vaccination. J. Rosenfeld, p. 16.

Rosenfeld gives the results of studies made to determine the exact phenomena of vaccination, particularly in successive vaccinations. He continues the investigations begun by von Pirquet in 1907. Vaccinations on successive days for two weeks or more were performed in a number of patients and the development and retrogression of all the lesions were studied. The author concludes that the formation of the papilla (which is the term used for the slightly flattened, plateau-like, well defined papule, present on the eighth day after vaccination) is a local phenomenon. Involution of the vaccination lesions is a general phenomenon, inasmuch as it was observed that involution in all the lesions began simultaneously. The "area formation" (zone of hyperæmia surrounding the lesions) is a general reaction, as it formed simultaneously in all points in successive vaccinations.

A Plea for an Earlier Diagnosis of Pellagra. M. L. Ravitch, p. 33.

Ravitch discusses the various theories advanced as to the cause of pellagra. Sunshine, corn, poverty, cottonseed oil, the sand-fly, a water worm, the buffalo-gnat and the amœba have each been thought the true cause, but may all be dismissed as lacking scientific foundation. The author advances the theory, which he holds with his co-workers Eisenman and Purdy, that pellagra is most probably due to the transmission of pathogenic trypanosomes by the migratory blackbirds.

The transmission of the disease to human beings is probably accomplished in two ways: 1. Bites of preying mosquitoes and flies. These are originally infected by biting blackbirds. 2. Accidental ingestion of the cysts, deposited with the fæces of insects on the surface of plants. While no trypanosomes have been found in the blood of human pellagrins, there are indications that they will be in the near future.

Ravitch lays stress on the skin lesions as the most important symptom of pellagra. Other symptoms referable to the nervous system and gastro-intestinal tube are insufficient for the diagnosis. The fact that arsenic is beneficial in pellagra points to its protozoan nature.

Lancet.

(July 6, 1912, clxxxiii, No. 4636).

Abstracted by Frank E. Simpson, M.D.

Observations on the Ætiology of Vaccinia and on the Cultivation of the Microbe of Variola. W. J. Simpson, p. 20.

Simpson believes that human small-pox and many cases of the cattle plague or rinderpest of India are identical diseases. This has been impressed upon him by clinical and post-mortem observation of these two diseases. He determined in 1884-1885 that it was possible to produce vaccine by the passage of human small-pox virus through the cow. He now publishes the results of experiments performed in 1894-1895. Diplobacteria were isolated from a buffalo suffering from what appeared to be small-pox (East Indian-"Gotée") and calves were inoculated from subcultures. Vesicles characteristic of vaccinia formed and the lymph was transferred to children and back again to calves.

(*Ibidem,* July 13, 1912, clxxxiii, No. 4637).

Neosalvarsan. James McIntosh, and H. B. Parker, p. 82.

The authors have used neosalvarsan for the past three months in the treatment of syphilis. The difference between salvarsan and neosalvarsan from a chemical point of view is noted. Salvarsan is an acid salt. When soda is added a heavy precipitate is brought down and a neutral suspension is formed; on the addition of more soda the suspension dissolves in alkaline solution. Neosalvarsan is neutral and dissolves in water to form a neutral solution. This is of great convenience. Neosalvarsan occurs as a yellow powder less fine than salvarsan, so that a definite rattle is detected on shaking the capsule container. Nine decigrams of neosalvarsan represent 0.6 gm. of salvarsan. It is administered by the authors intravenously in bacterium-free distilled water in the average strength of 0.6 gm. to 150 cc. The water should have a temperature of about 30°C and each dose is freshly prepared. The authors quote Schreiber to the effect that the toxicity of neosalvarsan is less and the therapeutic effect greater than that of salvarsan. They have made some experiments on rabbits and rats. In rabbits the tolerated dose per kilogram of body weight was 0.18 gm.—slightly less in rats.

Further experiments on the influence of neosalvarsan on the motility of Trypanosoma Brucei were carried out. To 1 cc. of increasing dilutions of neosalvarsan in test tubes one drop of rat blood containing a large number of trypanosomes was added. The motility of the organisms was then observed from time to time. Neosalvarsan was found to be 5 to 10 times more active than salvarsan. In man, the authors have used in secondary syphilis three injections

of 0.7, 0.6 and 0.5 gm. at one day intervals without toxic effects. Schreiber has used even larger doses—as much as 5.0 gm. in seven days. The only untoward symptoms have been slight diarrhœa and sometimes fever.

The authors at first tried intramuscular injections of neosalvarsan but gave it up on account of the danger of necrosis and indurations. Intramuscular injections are by no means painless, but less painful than salvarsan. In general the authors advise, in primary syphilis, two initial doses, followed in four weeks by a third dose; in secondary syphilis, three injections at first and a fourth, eight weeks later; in tertiary syphilis the treatment should be continued every two or three months after the initial course until the Wassermann is negative. In secondary syphilis a negative Wassermann may be obtained in eight to ten weeks after such a course of treatment as has been outlined.

(*Ibidem*, July 27, 1912, clxxxiii, No. 4639).

Syphilitic Lung Affections and Immunity in Native Races. H. C. French, p. 227.

French calls attention to syphilis in its later stages, especially when untreated, as a cause of lung disease. In the army service he has seen many cases not only of localized gummata, but also of fibroid phthisis of luetic origin. In recent years, owing to long-continued treatment, such cases have been rare. In regard to second infections with syphilis, French has never yet seen it in six thousand cases which have been followed up. He has never seen a congenital syphilitic with acquired syphilis. He does not, however, dispute the possibility of a second infection.

American Journal of Urology.

(May, 1912, viii, No. 5).

Abstracted by Louis Chargin, M.D.

Elephantiasis Cutis (Penis). M. L. Heidingsfeld, p. 263.

The author describes a case of this affection in a negro aged 45 years. The penis was normally well developed. The prepuce was enormously enlarged, the free edge of which measured 10½ inches in circumference. The overlying skin was smooth, free from scales, crusts, etc. This affection followed a double radical extirpation of infected inguinal glands. The author thinks that the case is instructive, inasmuch as it demonstrates that such operation can, of itself, without local infection, lead to permanent elephantiasis cutis of the penis. Thus radical extirpation of the inguinal glands is contraindicated where free drainage can be effected.

Pacific Medical Journal.

(May, 1912, lv, No. 5).

Abstracted by Louis Chargin, M.D.

Outset and Duration of the Excretion of Arsenic in Urine after Employment of Salvarsan. K. Greven, p. 286.

In this series of experiments the "biological method" was employed to determine the presence of arsenic. The salvarsan was given either subcutaneously or intramuscularly. The summary of findings are: the excretion of arsenic, after employment of salvarsan, begins very promptly in the urine (within 1 hour). The

duration of the arsenic excretion through the urine is longer, according to the biological method, than originally established by others. The excretion of arsenic in the urine is more rapidly completed after subcutaneous injections of the remedy (14 days) than after the intramuscular method (17-18 days). Simultaneous mercurial treatment seems to delay excretion while potassium iodide apparently shortens it.

Journal of the Indiana State Medical Association.

(May 15, 1912, v, No. 5).

Abstracted by Louis Chargin, M.D.

The Diagnosis of Syphilis. W. P. Garshwiler, p. 205.

The important diagnostic points in the various stages of the disease are brought out.

The Sociological Aspect of Syphilis. C. E. Barnett, p. 207.

A general review.

The Treatment of Syphilis. D. C. Ridenour, p. 209.

The writer leans to the ingestion and inunction treatment and is rather averse to the use of "606." He is not convinced of the ætiological relationship of the spirochæta pallida to syphilis.

(*Ibidem,* June 15, 1912, v, No. 6).

Sociologic Aspect of Syphilis. J. A. Morrow, p. 254.

Review of the subject emphasizing the baneful effects of the syphilitic virus upon the progeny and urging more active measures for bringing the disease under control.

A Résumé of Some of the Mental Phases of Syphilis. A. P. Harrison, p. 263.

A description of the commoner mental affections of syphilitic origin.

Edinburgh Medical Journal.

(June, 1912, New Series, viii, No. 6).

Abstracted by Louis Chargin, M.D.

Soaps and Their Effects on the Skin: An Analytical Research. F. Gardiner, p. 514.

The writer has experimented with a great variety of soaps and some of their ingredients and his findings are as follows: All soaps, from their chemical constitution, must be irritant to the natural skin, varying with the individual, being more pronounced in senile and diseased skins. Cottonseed oil and other rancid fats are probably largely responsible for the irritant effects in cheaper soaps. The bactericidal power of soaps is nil; even when combined with antiseptics they are of no value as germicides. There may be some reason for the introduction of such substances as sulphur and ichthyol into soaps because of their effect on the glands and blood vessels of the skin, but clinically, antiseptics and, above

all, carbolic acid, increase irritation. There is no scientific basis for the addition of extra fat to soaps. Rosin and impurities have no significance from the present standpoint, but paraffin and benzene derivatives, when incorporated with soaps for cleansing purposes, increase the harmful effect on the skin. The minimum of soap should be employed and well washed off.

Virginia Medical Semi-Monthly.

(June 7, 1912, xvii, No. 5).

Abstracted by Louis Chargin, M.D.

Salvarsan in Cases of Hereditary Syphilis. B. Lankford, p. 108.

From the reading of reports and some personal experience, the writer concludes: That salvarsan should be administered to older children showing bone, skin and mucous membrane lesions, but only intravenously and probably after mercury has been given a trial. That in young nursing infants with skin and mucous membrane manifestations, the most promising method is by injections given the mother, followed by inunctions. That with well-marked visceral involvement we should not use salvarsan at all.

(*Ibidem,* July 26, 1912, xvii, No. 7).

Treatment of Pellagra. E. H. Bowling, p. 190.

Believing this disease to be due to an ingested germ that can live only in an alkaline or neutral medium, the author's main idea in treatment consists in the administration of acids, both as a curative and prophylactic measure.

New Orleans Medical and Surgical Journal.

(June, 1912, lxiv, No. 12).

Abstracted by Louis Chargin, M.D.

The Diagnostic Value of the Reaction Following the Intravenous Injection of Salvarsan. A. H. Cook, p. 919.

The author cites cases to disprove the theory that the endotoxines eliminated by the dead pallidæ are responsible for the reaction in intravenous salvarsan therapy. Therefore the deduction that the greater the syphilitic infection the more severe the reaction is false and of no diagnostic value. With freshly distilled water he has greatly reduced the percentage of reactions and he is convinced that contamination of the distilled water is the causative agent.

New York State Journal of Medicine.

(July, 1912, xii, No. 7).

Abstracted by Louis Chargin, M.D.

The Effect of Salvarsan on the Ear. C. E. Perkins, p. 390.

When applied early in syphilitic nerve affections, mercury yields good results. Where symptoms have existed for a long time, however, mercury often fails us; here salvarsan seems to be of distinct benefit. There is no evidence to show that

cases with slight deafness were made worse by salvarsan and it should be used in all cases of luetic origin.

Effects of Salvarsan on the Eye. R. G. Reese, p. 393.

The most important points brought out in this paper, are, that salvarsan is a powerful symptomatic remedy in luetic eye lesions, but should not be given in simple, non-inflammatory atrophy of the optic nerve.

Monthly Cyclopædia and Medical Bulletin.

(July, 1912, New Series, xv, No. 7).

Abstracted by Louis Chargin, M.D.

Salvarsan in the Treatment of the Various Clinical Forms of Syphilis, with a Report of 20 Cases. J. M. Anders, p. 385.

A somewhat detailed report of the above number of cases. His findings closely coincide with those of others.

The Cholesterin Reaction in the Serodiagnosis of Lues. F. S. Matlock, p. 410.

From a series of 200 cases examined, using the original Wassermann method as a standard, the author finds that though it is a good test, giving accurate results in 82% of cases, it is inferior to the Wassermann by 18%. Thus, the test is valuable as a control to the Wassermann. It can never be used as a simple test for syphilis in the doctor's office, as it demands accurate technique as well as experience in reading results.

American Medicine.

(July, 1912, New Series, vii, No. 7).

Abstracted by Louis Chargin, M.D.

Formaldehyde in the Removal of Verucca, Clavus, Callositas, Nævus Pigmentosus and Cornu Cutaneum. R. L. Hammond, p. 391.

For the above affections the author employs formaldehyde (40%), which he applies on a wooden toothpick every 3 or 6 hours, depending on the rapidity of action desired, for 2 or 3 days. He claims excellent results from this method of treatment.

Canadian Medical Journal.

(July, 1912, xi, No. 7).

Abstracted by Louis Chargin, M.D.

Laboratory Tests in the Diagnosis of General Paresis. C. S. McVicar, G. Bates and G. S. Strathy, p. 563.

From their series of cases (45) investigated, the following can be deduced: An increased cell count is present in nearly all cases of paresis. General paresis without a positive Wassermann in both spinal fluid and blood serum is rare.

Globulin can be detected in the spinal fluid of nearly all paretics. A positive Wassermann may be obtained in the spinal fluid of patients with a luetic history and who cannot yet be diagnosed clinically as cases of paresis.

Southern Medical Journal.

(April, 1912, v, No. 3).

Abstracted by Louis Chargin, M.D.

The Introduction of Maize into Italy and Pellagra. C. L. Alsberg, p. 70.

The author argues that Sambon's evidence for the general use of maize in Italy during the sixteenth century is probably based upon a confusion of terms. He does not wish to convey the impression that maize was unknown in Italy before that time, but merely that there is no evidence that it was then extensively used. Furthermore, that there was a great gap between the extensive use of maize in Italy and the reported appearance of pellagra is not proved.

NOTICES AND NEWS ITEMS.

Obituary.

Henry Giles Anthony, M.D.

Dr. Henry Giles Anthony died in Chicago on July 10, 1912. He had been a sufferer for many years from a disease of the hip which greatly impaired his physical health, but in no way diminished his mental vigor or professional enthusiasm. His death was the termination of several months of harassing illness.

Dr. Anthony was born in Chicago, Dec. 12, 1859. He was the son of Judge Elliott Anthony and Mary Dwight Anthony. His father, for many years a Judge of the Superior Court of Cook County, was one of the most highly respected members of the Chicago bar. He was particularly distinguished for his literary bent which was evidenced among other ways by the accumulation of one of the largest private libraries in the West. Anthony's mother was a granddaughter of President Timothy Dwight of Yale College and through him was a direct descendant of Jonathan Edwards. Anthony thus acquired by inheritance and by association the strong scholarly tastes which characterised him.

He received his general education in the Chicago public schools and graduated from the old Chicago High School. He obtained his degree in medicine from Rush Medical College in 1884. Soon after graduating he went to Europe to continue his medical education and spent the five years until 1889 abroad, chiefly in Berlin, Strassburg, Vienna and Paris. He returned to Chicago and began the practice of dermatology in 1889 and for the twenty-three years between that time and his death, he worked in his specialty with whole-hearted enthusiasm and with more zeal than his frail physique warranted.

He long since took his place as an authoritative dermatologist and he has held the positions that would naturally be acquired by one of his attainments. His teaching was done at the Chicago Polyclinic and at Rush Medical College; he was Dermatologist to various hospitals; he had been for many years an honored

member of the American Dermatological Association; he was one of the founders, one of the most faithful and valued members and an ex-President of the Chicago Dermatological Society. This latter organization was probably one of Anthony's most congenial associations; and certainly it was one in which he appeared to brilliant advantage. For he was a specialist's specialist; he knew his field as few men know it and he enjoyed to the fullest a discussion of the intricate problems of dermatology. Indeed, his great learning in dermatology was his predominant quality. The extent of his knowledge of its literature was unique.

Anthony was a credit to dermatology. He was a scholar. His ideals were high and he was faithful to the best of them in his devotion to his vocation. He had courage based on knowledge; he was vigorous in stating his position upon any dermatological question, but he had an open mind and could see the truth. In his death American dermatology has suffered a real loss. W. A. P.

Radcliffe-Crocker Memorial.

A traveling scholarship in dermatology has been endowed with £1,500 by Mrs. Radcliffe-Crocker in memory of her late husband, H. Radcliffe-Crocker, M.D., London, F. R. C. P., formerly President of the Dermatological Section of the Royal Society of Medicine, London. The above sum has been placed in the hands of the Committee of the University College Hospital where Dr. Radcliffe-Crocker was Physician for 30 years. The scholarship carries with it a gold medal and will be awarded once in 5 years at the discretion of the Committee.

Chair of Dermatology at the University of Michigan.

Dr. Udo J. Wile, formerly of New York, is now a resident of Ann Arbor, Mich. Dr. Wile has been appointed Professor of Dermatology and Syphilology in the University of Michigan.

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EDITORIAL.

THE BARBER SHOP AS A SOURCE OF CONTAGION.

CIVILIZATION has its evils as well as its blessings. One of its evils is the barber shop as we commonly know it. Dr. Lain, of Oklahoma, at the recent meeting of the American Dermatological Association, stated that the uncivilized Indians were almost exempt from scalp diseases, while the more civilized Indians, who went to barber shops, were troubled with dandruff, one of the most common scalp infections, quite as much as the white man.

The barber shop is probably the most active single agent for the spread of pityriasis and seborrhœic dermatitis and the consequent alopecia, favus, impetigo, pediculosis, ringworm, sycosis and syphilis. This is a service the barber renders his customers for which the latter does not pay a single cent. Perhaps he does so in return for the "tip" that the barber in these days of graft, almost demands.

That the barber should thus spread contagion need not surprise us when we consider that he goes from one customer to another without cleaning his nails, or even washing his hands; that his towels are usually passed through the mangle without being washed and are put away damp in close closets where the air is warm and moist; that he uses a powder puff for all in common; that he brushes scalp after scalp without disinfecting his brush; and that he rarely if ever disinfects his razor or that infernal machine, the hair clipper. The latter is an active agent in spreading ringworm among children.

As physicians, it is our duty to point out to our patients the great dangers they run in patronizing barber shops and to advise them to see to it that a few simple, inexpensive, hygienic measures are carried out by the barber to whom they go.

The barber himself should be clean and free from any disease of the scalp or skin. He should wash his hands and clean his nails

with a nail brush before attending to a customer. He should wear a clean, white, washable apron and coat.

Fresh paper towels and napkins should be used instead of ordinary towels for all purposes, even to cover the head-rest of the chair. Absorbent cotton should be substituted for the shaving brush and powder puff, and thrown away after being used once. Razors and shears should be dipped in boiling water containing borax before using and wiped with pure alcohol, or other disinfectant, after using. Any bleeding should be stopped by simple pressure with absorbent cotton and not by the alum stick. Brushes and combs should be washed in a disinfectant soap, or with ordinary soap and stood for a few minutes in a four per cent. solution of formalin in 50 per cent. alcohol, or in pure alcohol alone. The use of the hair clipper should be absolutely forbidden by law.

There are a few shops conducted on hygienic lines, but only a few. There is little use in making laws to regulate barber shops until the public is awake to their dangers and then the barber will, for his own benefit, adopt some such methods for the avoidance of contagion as are given above.

George T. Jackson, M.D.

A CASE OF SO-CALLED PRURIGO NODULARIS.*

By Joseph Zeisler, M.D., Chicago.

Professor of Dermatology, Northwestern University Medical School.

FOR the purpose of identification it may be stated that the term prurigo nodularis has been selected by Hyde, in the last edition of his treatise on skin diseases, for a rather unique dermatosis which he described on the basis of but four observations, one of them his own. Of the others, one was published in 1880 by Hardaway in the *Archives of Dermatology* under the title: "A Case of Multiple Tumors of the Skin Accompanied by Intense Pruritus." The other two cases form the subject of a communication by Schamberg and Hirschler in the *Journal of Cutaneous Diseases* for April, 1906, under the heading "Two Cases of Multiple Tumors of the Skin in Negroes, Associated with Itching." There is a striking similarity in these four cases. All of them concern women in middle life; in all, the lesions vary in size from a small pea to a hazel nut, are located

*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

PLATE XXII.—To Illustrate Article by Dr. Joseph Zeisler.

Prurigo Nodularis.

chiefly on the extremities and give rise to intense itching. Having once become established, they show little tendency to either further development or involution and remain thus unchanged for years, uninfluenced by treatment.

The case which I am about to record and of which a partial illustration is appended, follows the paradigm just outlined in every detail:

Case Report.

Mrs. C. B., 41 years old, of Nokomis, Ill., was referred to me by Dr. H. H. Whitten and placed herself under my care on February 8th of the present year, giving the following history which is quoted in practically her own words: With the exception of measles and scarlet fever her childhood was free from illness. Her skin during her early life and during adolescence was smooth and white. At the age of eighteen she began to have "hives," which she at first attributed to poisoning from being in the timber. Attacks would come on occasionally, sometimes after getting too hot, again from getting too cold. They would last for a few hours and leave the skin in normal condition. At the age of 20 she had typhoid fever. She was married at the age of 24 and five years late gave birth to a son. A short time after this a spot which looked like a "hive" appeared on the back of the second finger of the left hand. It itched so terribly that she consulted a physician, but received no relief. During the next three or four months other spots appeared. These increased gradually in size and number until they extended all over the upper and lower extremities. During the last few years the cutaneous condition has changed very little. No new lesions have shown up and some of the old ones have disappeared. Her son, who is now 11 years of age, has a perfectly normal skin. Five years ago the patient had peritonitis. During the duration of her skin disease she has consulted a great many doctors, among them two skin specialists and a magnetic healer. She has visited various resorts, including the Hot Springs of Arkansas, but all without avail. In the course of the last ten years she has lost fifteen pounds in weight.

The examination of the organs of the chest and abdomen, which was made by Dr. E. P. Zeisler revealed nothing abnormal. Analysis of the blood made at the clinical laboratory of the Northwestern University Medical School showed: red blood corpuscles, normal. Leucocytes: lymphocytes, 23%; large mononuclears and transitionals, 7%; polymorphonuclear neutrophiles, 65%; eosinophiles, 5%; basophiles, 0.5%. The examination of the urine showed: specified gravity, 1,012; reaction, acid; albumin and sugar, absent; casts, none; red blood cells, occasional; leucocytes, 10 per 1-6 field; epithelial cells, 15 to 20 per 2-3 field; many urates; mucine shreds.

The examination of the mucous membranes shows them to be normal. The skin in general looks mottled and pale. The face appears somewhat haggard, markedly dry and shows, especially in the lower portion, a few, superficially situated, pale, somewhat rough, papules. On the arms and legs, more so on the extensor than on the flexor aspects, are numerous pea- to hazel-nut-sized efflorescences of dense consistency and of yellowish-brown to brownish-red color. The lesions are all discrete, show no tendency to grouping and the skin between them appears normal. They are situated within the cutis, are sharply contoured and elevated above the niveau of the skin in varying degree. The majority of these nodules have a distinctly roughened surface; the large ones are flattened on the surface and resemble verrucous lesions. The result of scratching is noticeable in a few of them. The smaller lesions have a smooth, somewhat shiny surface.

The backs of the hands show a large number of corn-like indurations. A few such are also on the palms. The complete freedom of the trunk from any lesions is in sharp contrast to the widespread affection of the extremities. The accompanying photograph will give a fair idea of the size and distribution of the lesions on the lower leg and ankle.

Two of the nodules were excised for microscopical examination at the pathologic laboratory of the Northwestern University. They show chiefly changes of a papulo-verrucous nature and, save the absence of a vacuole formation, reminded me strongly of the picture in my case of angiokeratoma exhibited in 1893. The horny layer is markedly increased. Within this are seen occasional round, concentrically arranged, nest-like bodies. Inflammatory changes of perivascular nature are seen mostly in the corium, less in the papillary layer.

As far as I am able to judge, the microscopical picture corresponds closely to that given by Heitzman in Hardaway's article, as well as to the very detailed and carefully recorded report in Schamberg and Hirschler's paper.

That we have here an unmistakable example of Hyde's prurigo nodularis will not be doubted; and that this disease is in reality a very rare one I feel quite sure. At any rate, it is the first time that I have personally seen such a case either in my own or anybody else's practice. But it would be a mistake to assume that the five instances herewith recorded comprise the total of all such observations. When I first examined my patient I entered in my record-book the diagnosis, urticaria perstans, and it was only when my colleague, Dr. Ormsby, saw the case, at my invitation that my attention was called to Hyde's designation. Since then I was able to find, particularly in modern German literature, under the heading of urticaria perstans, quite a number of observations some of which are unquestionably identical with our American cases.

Plate II of the *Ikonographia Dermatologica* of 1906 shows first an illustration of a case of acne urticata, an unfortunate title first coined by Kaposi, to which the author, Dr. Baum, would prefer the name urticaria necroticans. This case is certainly closely allied to our disease. Kaposi describes three, Löwenbach one, and Touton two instances of it. In all of them there is an exceedingly chronic course. intense pruritus and inefficiency of all therapy. The extensor surfaces of the extremities are chiefly affected.

On the same plate is another illustration entitled urticaria per stans which shows a remarkable similarity to Schamberg's picture and my own. But it differs in that the author mentions the affection to occur all over the body. The same difference can be noted in Pick's three cases entitled urticaria perstans and published as early as 1881 in the *Prager Zeitschrift für Heilkunde* and in one of Fabry's cases (*Archiv für Dermatologie und Syphilis*, xxxiv).

On plate XIV of the *Ikonographia Dermatologica* of 1907, we find another case of urticaria perstans by Willy Schmidt. It shows the onset of the lesions with their distinct urticarial character and again the appearance of the organized, persistent efflorescences. In spite of the apparent similarity of this picture to my own case I am constrained to regard it, from the description given, as essentially different, inasmuch as the continuously recurring urticarial element is the dominant feature. On the other hand I believe that what Kreibich describes as urticaria perstans verrucosa (*Archiv für Dermatologie und Syphilis*, 1899, xlviii), is probably identical with our cases. Also, Johnston's paper entitled "A Papular, Persistent Dermatosis; Report of an Undescribed Disease" (*Journal of Cutaneous Diseases*, 1899) treats without much doubt of an instance of urticaria perstans verrucosa.

Following Brocq's lead, Charles J. White adopted the title of lichen obtusus corneus in reporting (*Journal of Cutaneous Diseases*, Sept. 1907), the case of an elderly woman, which in every respect appears to be a counterpart of mine.

Several of the German authors dealing with this subject refer to a case of Corlett's, published in the *Journal of Cutaneous Diseases*, 1896, and entitled "A Peculiar Disease of the Skin, Accompanied by Extensive Warty Growths and Severe Itching," which they include under the heading of urticaria perstans. But I doubt whether the respective authors have seen the paper in the original, for the illustration explaining it would at once exclude the case from consideration in this connection, as the lesions are closely grouped together over a limited area of one leg.

In a very exhaustive paper by Kuno Hartmann (*Archiv für Dermatologie und Syphilis*, 1903, lxiv), entitled "Ueber eine urticariaartige Hauterkrankung," the author gives an account of seven cases which he considers as allied to urticaria perstans, but none of which corresponds exactly to our prurigo nodularis. In summing up he says: "We have here a form of chronic pruritus with secondary papular or verrucous lesions, produced probably by mechanical irritation." He realizes that his cases are not a true urticarial process and points out a certain resemblance to Hebra's prurigo.

One of these seven cases forms the subject of a later communication by Hübner from Herxheimer's clinic (*Archiv für Dermatologie und Syphilis*, 1906, lxxxi), and here we meet for the first time with a new title, "Tuberosis cutis pruriginosa."

In the most recent literature I find a case reported and demonstrated by Fasal at the Vienna Dermatological Society, December,

1911, which is practically a counterpart of my own case. This was a woman, 27 years of age, who had suffered for nine years from severe itching on both arms and both legs and who showed, chiefly on the extensor surfaces, numerous lesions whose description, both macroscopic and histologic, corresponds closely to our American cases. The author presents his case as an instance of urticaria perstans verrucosa, which to him is a synonym for tuberosis cutis pruriginosa.

That a further and closer search of dermatological literature would reveal additional instances of the same malady I have little doubt.

We have here a characteristic illustration of the unfortunate effect of dermatologic nomenclature. In the case of an unusual observation the reporter must either content himself with a long descriptive title or he must coin a new term. The result is chaos. That Hyde's prurigo nodularis and Herxheimer's tuberosis cutis pruriginosa are identical conditions can easily be seen. I personally prefer the former title because it is shorter and quite descriptive. The title "Urticaria perstans verrucosa" does not seem to me well chosen because the urticarial element, if at all present, is merely a precursory feature. In my case I have at no time observed any fresh pomphus lesions, nor was their any suggestion of dermographism. That there is a form of urticaria with persistent lesions can of course not be denied. The most familiar example of this is the papular urticaria of childhood or lichen urticatus. The intrinsic feature of true urticaria is the development of ephemeral lesions; the establishment of horny, verrucous excrescences which remain stationary for years is quite antagonistic to such a conception. I wish that I could enrich the purely morphologic knowledge of this interesting dermatosis by some ætiologic item. The presence of increased eosinophile cells in the blood means very little. The other findings reveal nothing characteristic. The histology in the previous cases throws no more light upon the true nature of the disease than my own. The occurrence of the five American cases in women in middle life would suggest some relation to the generative organs. But in the absence of exact data that would merely amount to a guess.

The confinement of the lesions to the extremities is a curiosity for which an explanation would be difficult.

As to the treatment I am able to add a point not without value. Besides the general management by dietetic directions and the employment of internal antipruritics I made use of two rather powerful agents: a 10% chrysarobin varnish and repeated exposures to the X-rays. The latter had a curious effect. Under their influence

the hard keratomatous growths seemed to soften and become transformed into vesicular lesions, which would gradually dry up and then could be easily removed in toto, leaving the underlying skin practically normal. The patient remained under my care for a period of six weeks and then left for home very much improved.*

DISCUSSION.

Dr. Hartzell said he was particularly interested in the report of this case, as a similar one had come under his observation within the past six months. The eruption, in his case, presented some minor differences: it was not confined strictly to the extremities, as there were some lesions on the trunk. They were all, without exception, of a livid, bluish-red color and perhaps larger than in Dr. Zeisler's case. He was especially impressed by one or two features, namely, the flattening of the lesions and the presence of a small umbilication in some of them and he had remarked their resemblance to lichen planus; they were like giant lichen planus lesions. The eruption had persisted for at least ten years, and was accompanied by intense itching. The patient, who was a woman, had seen a number of dermatologists, but no diagnosis had been made.

Dr. Johnston said that the case referred to by Dr. Zeisler was the only one he had ever seen. He was inclined to believe that it belonged to this same type and was perfectly willing to drop the descriptive title he had employed at that time and adopt the one suggested by the late Dr. Hyde. In his own case, he became so much interested in it that he took sections of the lesions to the Johns Hopkins and showed them to Dr. Welch, who discovered that the infiltration lay about the nerve trunks, which would account for the intense pruritus accompanying the lesions, taking it for granted that this pathological finding belonged to all these cases. The lesions belonged essentially to the prurigo group and in them there was found at times a superficial intraepidermic vesicle, which was exactly what we found in prurigo.

The speaker said he was inclined to believe that these patients suffered from marked disturbance of the nitrogen metabolism, and that they might, perhaps, be helped by thyroid extract. On the contrary, most of them were about the age of the menopause and on that account the thyroid might prove deleterious. If, however, the urine showed an indication for it, he would not hesitate to give the thyroid a tentative trial.

Dr. Ormsby said that through the courtesy of Dr. Zeisler, he had had the opportunity of seeing this patient before treatment was begun and the lesions at that time were exactly similar to those in the case reported by Dr. Hyde. A striking feature in connection with both of these cases was that the lesions were so well defined and not grouped as in lichen planus. Dr. Hyde's patient, who was the wife of a physician in the West, was seen only once and the case had never been described, except incidentally. The last report from her was that there had been no improvement. In her case, the lesions were about the size of a split pea and the eruption occupied chiefly the upper and lower extremities.

The speaker said he was under the impression that Dr. Jackson had shown a case of this kind before the New York Dermatological Society and that in the course of the discussion, Dr. James C. Johnston had made the suggestion that

*Note.—Under date of May 12th, the patient reports that her improvement was but temporary. Not all of the nodules removed came back, but most of them, and quite a number of new ones appeared on the hands and arms. For a time the itching was better, but now it is as bad as ever. All this merely corresponds to our previous knowledge of this extraordinary dermatosis.

the lesions resembled those of prurigo. This was also Dr. Hyde's idea, with the exception that the lesions were nodular instead of papular.

Dr. Wolf said that he was very much interested in the patient of Dr. Zeisler's and congratulated him upon the able presentation of the case. The speaker felt, however, some hesitation in accepting the proposed name for the affection as creating some confusion. A pupil of Kaposi, like Dr. Zeisler himself, the speaker would like to see the name "prurigo" applied only to the type of case so masterly described by Kaposi, which should begin in early childhood and terminate fatally after a few years or perhaps continue to the twentieth year in milder cases. The other name for this affection which had been more used in Germany and other countries was "strophulus infantilis." The most appropriate name for Dr. Zeisler's case would be in the opinion of the speaker, the one suggested by Herxheimer, namely, tuberosis cutis pruriginosa. Fasal's case of which the essayist made mention in the course of the paper and which had been presented to the Vienna Dermatological Society early in December, 1911, tallied in its clinical picture with the one presented by Dr. Zeisler and the name suggested for Fasal's case was also tuberosis cutis pruriginosa in preference to the urticaria chronica perstans because of the difference in histological and clinical appearances. Baum's cases presented in the *Iconographia Dermatologica* were more of an urticarial character.

Dr. Jackson said the case Dr. Ormsby referred to was a young woman with a group of nodular lesions on the right thigh. They were accompanied by intense itching and were treated with all kinds of remedies without benefit.

Dr. Zeisler said that of course the subject of nomenclature was an old and unfortunate bugbear in dermatology. In the present instance, it seemed to him that America had assumed a sufficiently authoritative position in dermatology to justify its coining a name of its own without borrowing from Europe. The term nodularis represented an essential element in the case; while the term prurigo clearly indicated the persistent and chronic itching.

In connection with the statement made by Dr. Johnston that these cases were usually observed about the menopause, the speaker said he had learned to-day from his patient that her menstruation was irregular and he was inclined to adopt the suggestion made by Dr. Johnston and put her upon thyroid extract.

Replying to Dr. Hartzell's statement, the speaker said he failed to see any relation between these cases and lichen planus, as the eruption was found chiefly on the extensor surfaces of the extremities and left the body practically free.

ACANTHOSIS NIGRICANS WITH REPORT OF A CASE.*

By Alfred Schalek, M.D., Omaha.

Professor of Dermatology, University of Nebraska.

THE name acanthosis nigricans was originally proposed by Unna and is the one by which this disease is known to-day, though Darier's designation of pigmentary and papillary dystrophy conforms better to the histological facts. The first description of this very rare disease was made simultaneously and

*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

independently by Pollitzer and Janovsky in 1890. In 1909 Pollitzer reported 52 cases from the literature. Twelve of these were known to have died since. In his opinion other cases were probably overlooked through lack of acquaintance with the disease.[1] New cases have been published since; one by McIntosh,[2] in which the interesting point was the decided decrease of the secretion of hydrochloric acid by the stomach; another by Wellenberg[3] in a woman, 76 years of age, with lesions especially well developed around the genitals. Wild[4] showed at Belfast in July, 1909, a man in whom the supraclavicular glands were enlarged before the appearance of the cutaneous affection, the probable site of the primary growth being the cardiac end of the stomach. White[5] reported a case of the juvenile type at the last meeting of the American Dermatological Association and in the discussion Gilchrist referred to two cases and Klotz to one case, which they have seen recently. This would make a total of 60 known cases, which also includes my patient.

The disease is of special interest and importance on account of its almost constant association with malignant neoplasms. This complication is usually recognized at the same time or even before the skin manifestations, but in some cases, as in mine, there was no suspicion of its presence until a tentative diagnosis of the skin changes caused a successful search for it.

The pathognomonic cutaneous symptoms, more or less always present, are wide-spread pigmentation, hypertrophy of the papillary layer of the skin and hyperkeratosis of the horny layer. Less constant are affections of the mucous membranes and dystrophies of the appendages—the hair and nails.[6] The papillary hypertrophy is of different degrees. There may be a slight elevation of the affected skin with distinct furrows, giving it a rough, uneven appearance, or the other extreme may be present, with the formation of large papillomatous excrescences of a cauliflower-like character. Desquamation is as a rule absent. The pigmentation is a very conspicuous symptom. In my case it preceded the papillary hypertrophy, which later began as a rough unevenness similar to the condition known as lichenification. The discoloration assumes all degrees, from a light brown to a black and may be interspersed with normally appearing skin, or it may be diffuse. My patient was considerably annoyed because she was repeatedly thought to be a negress. The mucous membranes are exempt from the pigmentation. The hyperkeratosis leads to a thickening of the skin, varying in degree in different locations. The hair is dry and brittle. In my case complete alopecia was present in patches. Subjective symptoms are mentioned only exceptionally

in the literature. My patient complained of severe itching for years, which prevented her from obtaining the required amount of sleep and impaired her nervous system and primarily caused her to seek medical help.

The disease affects the skin symmetrically and prefers certain regions, which fact Pollitzer considers diagnostically just as important as the other cardinal symptoms. Its course is essentially chronic and if due to malignant cause, becomes sooner or later complicated with general cachexia and leads to a fatal issue. Three-fourths of the patients are women between the ages of 35 and 40.

The peculiar influence of the tumor upon the skin has been the cause of much speculation and several theories are set forth: one, that an acute intoxication is caused by liberated toxines from the new growth. Another, that, as the tumor is commonly situated near the sympathetic centres, the compression and irritation of these centres are the provoking agents, corresponding conditions being found in pregnancy. Another that the acanthosis is a metastatic carcinomatosis of the skin, which seems least probable considering its extremely rare occurrence in the great majority of malignant neoplasms. The belief in the "mechanic-nervous" theory is prevalent and supported by Darier and Pollitzer.

The diagnosis of acanthosis nigricans should be made without difficulty, where the characteristic skin lesions are present and the neoplasm is recognized. In atypical cases, however, and with an obscure ætiology the disease is probably often overlooked and mistaken for other conditions. Melanosis due to long-continued administration of arsenic is not associated with keratosis, except on the palms and soles, places which are usually free in acanthosis. Addison's disease consists mainly of pigmentation without papillary hypertrophy. The mucous membranes of the tongue, gums, and other parts of the mouth are frequently affected.

Case Report.

Mrs. A. O., Swedish; age, 58 years, presented herself on Sept. 20, 1911. The family history shows no disease related to her present trouble; no tuberculosis or carcinoma. About ten years ago the patient noticed a swelling of the face and a drawing down of the mouth to the right side which was of one day's duration. The same trouble occurred again a few days later; this again disappeared and left no appreciable changes. The patient had had repeated attacks of rheumatism since the age of 15, which were so bad at times that she could not walk without support. Menstruation began at 15 and stopped at 50 and was always painful and profuse. Bleeding from the uterus and also from the rectum started about two months ago intermittently, recurring about every two

PLATE XXIII.—To Illustrate Article by Dr. Alfred Schalek.

Acanthosis Nigricans.

weeks. The discoloration of the skin was first noticed on the face about six months ago. The functions of the stomach, bladder and bowels are normal except for a mild constipation. Sleep is poor on account of extreme pruritus. The patient has lost about 75 pounds in weight since the beginning of her illness. A number of physicians have been consulted and treated her with tonics and local applications without any benefit. No abdominal tumor had been suspected.

The whole integument is pigmented with the exception of the palms, soles and the scalp. The color varies from a light yellow to a black. Diffuse, dark patches are seen on the back, the inner surfaces of the thighs, around the axillæ and over the perineum. Limited black areas of 2 to 4 inches in diameter are scattered over the dorsa of the feet. The papillary hypertrophy is especially marked on the hands and fingers. These parts are covered with thick, rough masses of coalescing warts, making them appear very much enlarged. Along the inner surfaces of the lower extremities numerous groups of small papules are found which are round, hard and smooth, of a diameter from ⅛ to ¼-inch and in places arranged in lines. The entire skin is very much thickened in all its layers and when pinched up and rolled between the fingers feels like leather. The back of the tongue shows hypertrophied papillæ of a bright-red color; the other mucous membranes appear normal. The hair is dry and brittle and very much thinned. Scattered over the scalp are completely bald patches of various sizes up to one inch in diameter. The nails are normal. Itching exists to an extreme degree. There is no papillary hypertrophy present in the axillary regions nor around the mucous orifices of the vulva and anus, to which some writers attribute a diagnostic importance.

A thorough physical examination was made by Dr. A. D. Dunn, to whom I wish to express my obligation. His report is as follows: The patient is a well-developed, elderly appearing woman. Emaciation is marked. The pupils are equal and react to light and distance. There is no pigmentation of the mucous membranes. The tongue is moderately fissured. The heart is normal. There is a small amount of fluid in the pleural cavity. The spleen and liver are not enlarged.

There is a tumor of the size of a grape-fruit in the lower half of the abdomen, the upper border of which lies a little above the umbilicus. It is rather regular in outline, not markedly hard and can not be pushed beneath either costal arch. It is not associated with the pelvic organs. The tumor mass is not tender, but produces distress when traction is exerted. On distension of the colon it is shown that the cæcum comes over the median line just above the symphysis and in front of the tumor. It seems that the intestines are adherent to the tumor body.

Stomach contents: A test breakfast was removed 50 minutes after eating. The quantity was about 50 cc. The food was not digested and a considerable amount of mucus was present. The total acidity was 15. There was no hydrochloric or lactic acid and no blood. The microscopic examination was negative. There is marked enlargement of the inguinal and right epitrochlear glands and moderate enlargement of the axillary glands.

Blood examination: Hæmoglobin, 70-80%; white blood corpuscles, 5,300; red blood cells, 6,354,000. Microscopic examination shows no pathological cells; the polynuclears predominate.

Urine examination: Specific gravity, 1,024; reaction, acid; albumin, sugar, and indican, negative. Ehrlich's aldehyde test, negative. Urea 25 gm. in 24 hours. Microscopic examination: exalates, pus and yeast cells; no blood.

Examination of stool: Reaction alkaline; macroscopic blood in large quantities, considerable amount of pus and lactic acid bacilli.

The patient was kept under observation at the hospital for about six weeks. Antipruritic and soothing lotions were applied locally. Sodium cacodylate and

thyroid extract were given for a while experimentally without any benefit. Though the successful removal of the tumor was considered difficult, the patient was advised to take the chances but refused. She went home to the country and was kept under observation through her family physician. She died the latter part of March, 1912. An autopsy was not permitted by her family. The doctor wrote that during the last weeks of her illness, the pigmentation left her face almost entirely, but her hands, forearms and limbs became more thickened and almost black. On February 1st, gangræne set in in several fingers. Toward the end, the abdomen was very much distended with ascitic fluid and the limbs were very œdematous.

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DISCUSSION.

Dr. Pollitzer said the number of cases of acanthosis nigricans had grown apace in the last twenty-three years, since the first case was described and during the past five or ten years the cases had increased in number very rapidly. Dermatologists and physicians in general were getting to be better acquainted with the condition and consequently we heard of it more frequently. A few years ago, the speaker said, he made a compilation of the cases, and was able to collect 52; of which number four or five had never been published. Dr. Pollitzer said he thought this disease was now pretty well established as an entity. The chief interest in the affection was its relation to disturbances in the abdominal organs, especially those connected with the abdominal sympathetic. The generally accepted idea that the disease was due to disturbance in the adrenal and abdominal sympathetic was wholly conjectural and what we were in need of were careful autopsy studies with reference to these structures. In the meantime, however, we were safe in the assumption that acanthosis nigricans, in the acquired form in the adult, was due to malignant diseases in the abdominal cavity, either primary or secondary, the latter including cases following cancer of the uterus. There was another group of cases in children, the juvenile type, characterized by the same kind of disturbance of the skin, although as a rule in this type the disturbances were less severe, and the disease might remain stationary and persist through life, whereas in the acquired form the symptoms were progressive. The acquired cases usually ended fatally, although there were some on record where the symptoms, including the skin manifestations, entirely disappeared. In one case published by Spietschke, the patient had a tumor of the uterus—a deciduoma—and developed typical acanthosis nigricans. After the diagnosis of malignant disease was made, a radical operation was done; the patient recovered from the operation and six months later all evidences of the acanthosis nigricans had disappeared. In this case, Dr. Pollitzer said, there was probably a metastasis affecting the abdominal sympathetic or the adrenals and it was difficult to explain how the removal of the primary growth should cause a disappearance of the symptoms presumably produced by the secondary metastatic growth; still, we had analogous conditions where, after the removal of primary malignant tumors, the metastatic deposits underwent fibrous degeneration. The speaker said he

was always pleased to have a case of this kind brought to the attention of the profession, because he felt certain that there were many unrecognized cases and that by their more frequent publication and study the ætiology of the disease would be cleared up.

Dr. Schalek said he simply wished to emphasize the two exceptional features of this case; first, the extreme itching, which he had not seen mentioned in connection with this affection, but which in this instance was the cause of the woman seeking advice and second, the loss of weight, namely 75 pounds, which was not due to the tumor itself. He also wished to emphasize the importance of an early diagnosis from the cutaneous symptoms, which in this instance might have revealed the presence of the tumor at an earlier stage and rendered operative interference feasible.

AN INQUIRY INTO THE EFFICIENCY OF SULPHUR LOTIONS.*

By O. H. Foerster, M.D., Milwaukee, Wis.

THE following quotation, from a paper read by Dr. M. B. Hartzell at the Annapolis meeting of the American Dermatological Association in 1908, directs attention to a promising field for dermatologic research which has, until quite recently, remained almost entirely neglected. He says: "Apart from the inadequacy of our knowledge of the nature and causes of many morbid processes, the utilization of much of the knowledge we do possess is made difficult and not infrequently impossible by the extraordinary lack of accurate information concerning the physiological effects of drugs upon the skin when taken internally and more especially when used locally. Without such knowledge, scientific therapeutics based upon pathology is an impossibility. In addition to knowing what is to be accomplished in the treatment of disease it is absolutely necessary to know the effects of the agents we are employing if these are to be used accurately and with certainty of result."

In sulphur we empirically recognize one of our most valuable dermatologic remedies for local use, but concerning its mode of action on the skin opinions to-day are still divided. It is certain that sulphur, as such, in contact with the skin remains practically inert, there being no interchange between sulphur and the keratin of the corneous layer, for both are insoluble. The action of sulphur must consequently depend upon its conversion to a soluble form or gaseous product. Unna,[1] in 1883, was the first to investigate this question.

* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

He concluded that sulphur acted by virtue of the hydrogen sulphide formed, which is recognizable by its odor and by the rapid formation of the sulphides of mercury and of lead in skin which has been in contact with these metals and with sulphur. He also demonstrated that keratin, converted to a semi-fluid state by treatment with ammonia, is dissolved by hydrogen sulphide. It had been observed that the action of sulphur on normal skin is twofold, depending upon its concentration. In diluted form its action is exerted only on the surface of the corneous layer and results in an increase in thickness, hardness and dryness (keratoplastic action), while in greater concentration it acts as an irritant and results in dermatitis, which Unna assumes is due to a deep action of hydrogen sulphide on the young prickle cells, dissolving these and thinning the corneous layer (keratolytic action). The keratoplastic action is based upon the reducing (or oxygen-withdrawing) power of sulphur, which favors cornification not only by drying of the cells, but possibly by withdrawing oxygen from the organic compounds which represent the cornifying albuminous substances. Unna also assumes that it may be necessary for cell growth and cell division to cease before cornification can take place and that the cessation of cell life is caused by the withdrawal of oxygen. According to this explanation reduction not only favors and hastens the process of cornification, but is the primary factor in making cornification possible. Unna does not attempt to decide this alternative, but points out a requirement common to both theories, in that the withdrawal of oxygen by hydrogen sulphide must become noticeable at once, or in other words, the keratoplastic action of sulphur begins upon the use of sulphur and in its smallest quantity.

These observations of Unna remained current and undisputed until Brisson[2], in 1909, asserted that the action of sulphur on the skin is due entirely to sulphuric acid formed by oxidation of sulphur. With this as a working hypothesis, though a substantial basis for it has not been advanced, Brisson experimented with various forms of sulphur in water, salt solution and in serum, at 40°C., with and without the addition of tar, salicylic acid, ichthyol and other substances. He concludes that sulphur does not act through the formation of hydrogen sulphide, but because of its ability to oxidize into sulphuric acid and that its ability to oxidize is increased by using minutely divided sulphur and by the presence of serum and salt solution, as well as various katalytic substances.

In a recent article, Golodetz[3] takes issue with Brisson and does not concede to these findings an explanatory value as to the action

of sulphur on either the living skin or corneous material. He asserts that inasmuch as corneous substances and the corneous layer of the human skin act eminently as reducing agents, they cannot possibly exert an oxidizing influence on sulphur.

Golodetz also points out that Brisson apparently assumes sulphur to be present in corneous substances combined with oxygen in the keratin molecule and appearing as sulphuric acid when it splits off, which is in opposition to the general acceptation that the sulphur of albuminous substances is united to hydrogen as sulph-hydryl, SH-group.

Golodetz finds confirmation of the hydrogen sulphide theory of sulphur action in a recent publication by Hefter[4], who believes that the reducing action of many albuminous substances resides in cystein (which is present in the complex of the albumin molecule) and especially its sulph-hydryl group. Hefter's work is of fundamental importance in the question at issue and deserves somewhat detailed consideration here. He bases his claims on a series of reducing actions characteristic for cystein as well as for other sulphur combinations characterized by the sulph-hydryl group (thiolactic acid, thiophenol and the like) and which are similarly produced by definite, sulphur-containing animal tissues. Hefter leads the reducing action of albuminous substances back to the sulph-hydryl group and thereby establishes a unified chemical explanation for the reducing property of the tissues.

Among the reactions employed by Hefter to demonstrate the reducing power of these substances, is the formation of hydrogen sulphide when they are brought into contact with sulphur. For example, when cystein is added to a watery suspension of sulphur, a marked odor of hydrogen sulphide is given off and in the reaction cystin is formed. The same reaction with sulphur is shown by many dead albuminous substances when still in a fresh state, but does not take place if these albuminous substances have been in contact with rapidly acting oxidizing agents, or have been exposed to the air for a time (auto-oxidation). The reaction returns when the oxidized substances are converted to their former state by reducing agents. Hefter assumes that in fresh albuminous substances and also in the living tissues, cystein is present and becomes recognizable as cystin after the hydrolysis. The conclusion reached by Hefter is that the reaction with sulphur, with formation of hydrogen sulphide, is to be found in those albuminous bodies containing cystein and only while cystein is present as such and has not been changed to cystin.

According to Hefter, keratin gives no reaction with sulphur, which indicates an absence of cystein, though cystein may be present.

Golodetz performed experiments with a series of substances to determine their reaction with sulphur suspended in water, using lead acetate as an indicator for the presence of hydrogen sulphide. The addition of cystein caused a marked reaction, while parings of ox-horn and fresh corneous layer from the sole of the foot did not. These evidently had undergone oxidation and contained only cystin. If the statement is accepted that in the living organism we have considerable amounts of cystein in addition to cystin, Golodetz believes an explanation for the action of sulphur can readily be given, in that sulphur in contact with the horny cells forms hydrogen sulphide by its reaction with cystein. In further support of this he states that sulphur and a salt of lead combined in an ointment will remain unchanged for years, but when applied to the skin will rapidly cause pigmentation, owing to the formation of lead sulphide. To determine if cystein is the only part of albuminous substances which is capable of reducing sulphur to hydrogen sulphide, Golodetz examined all the known amino-acids formed by the hydrolytic cleavage of keratin (glycocoll, leucin, tyrosin, tryptophan, etc.), but only cystein reacted, cystin slightly and others not at all. He therefore concludes that in the formation of hydrogen sulphide in the skin, cystein alone participates and that the action of sulphur on the skin, so far as now known, is to be regarded as the action of hydrogen sulphide.

This review of the literature shows the existence of two opposing theories, reduction to hydrogen sulphide and oxidation to sulphuric acid. The efficiency of a sulphur preparation is, therefore, according to Brisson, directly proportional to the amount of sulphuric acid formed from it by oxidation, while Unna and Golodetz consider its efficiency proportional to the formation of hydrogen sulphide. Further research is required for a definite decision of this question, though it appears at present as though Unna's conclusions are more securely founded. In this connection, it is perhaps desirable to investigate the interaction of sulphur, or its compounds, and the secretions of the cutaneous glands, the fat content of which may possibly lead to the formation of sulphurous acid and thus demonstrate that the action of sulphur is complex and exerted in more than one direction.

Since sulphur as such is insoluble, the therapeutic efficiency of sulphur preparations must in large part depend upon their ability to exhibit sulphur to the skin in such other form or combination that

either nascent sulphur or hydrogen sulphide, or both, are easily available. With this as a standard it was considered of some interest to inquire into the relative efficiency of sulphur lotions as ordinarily employed, not including colloidal forms of sulphur. Aside from the pharmaceutical inefficiency of preparations due to the use of precipitated sulphur which is not of pharmacopœial purity, of dried out potassium sulphuret, of lime water which is diluted and the like, many preparations made according to the commonly employed dermatological formulæ exhibit their sulphur content in a form little calculated to provide hydrogen sulphide or nascent sulphur.

For this reason the watery suspensions of sulphur as ordinarily prescribed and prepared must be regarded as of little value, for sulphur is insoluble in water and sulphur as such is practically inert. Mixtures of lime water and precipitated or sublimed sulphur, as commonly prescribed, contain no sulphur in solution, as there is practically no interaction, the lime water being rendered inert by the action of carbon dioxide of the air which produces insoluble calcium carbonate. The mixtures remain colorless. From this point of view the Kummerfeld mixture does not fulfill the requirements as an active hydrogen sulphide producer.

When sulphur, ether and alcohol are combined in the same prescription, only a very small part of the sulphur goes into solution and for this reason forms a slightly active mixture.

Zinc sulphate and potassium sulphide in water are said to interact with the formation of zinc sulphide, potassium sulphate and precipitated sulphur. It may be assumed that at the moment of interaction the sulphur formed partakes of the nature of nascent sulphur and, therefore, makes this an efficient preparation when freshly prepared. This condition, however, is temporary, although the sulphur thus formed probably remains in a state more available for interaction with the tissues, which would account for the good clinical results when the mixture has been properly prepared.

Vleminck's solution, or liquor calcis sulphurata, has long been known as an especially active sulphur lotion. In its preparation milk of lime and sulphur are boiled, the sulphur going into solution as calcium polysulphides and calcium thiosulphate, the bulk in the form of polysulphides. The solution is clear and red-brown in color, but upon exposure to the air becomes colorless, due to precipitation of sulphide of calcium in the form of calcium carbonate and sulphur. When in contact with the skin, the reaction of which is acid, nascent sulphur in a very finely divided state is formed as well as hydrogen sulphide, which, on the basis assumed for the action of sulphur, ex-

plains its well-known therapeutic value. Measured by our theoretical standard, liquor calcis sulphurata is to be regarded as the most efficient sulphur lotion.

In conclusion I wish to express my indebtedness to Prof. Edward Kremers, Director of the Department of Pharmacy, of the University of Wisconsin, for his courteous assistance in the consideration of various pharmaceutical questions.

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DISCUSSION

Dr. Winfield said that he was very glad to at last have a paper on the programme that would deal with dermatological therapeutics. The rarity of such papers in the past was well known: many of the papers had dealt with the pathology of skin diseases, but very few with the therapeutics. And the Doctor's paper contained many valuable suggestions regarding the old, ever useful dry sulphur.

Dr. Pusey said he wished to indorse Dr. Winfield's remarks. The speaker also expressed the hope that Dr. Foerster's paper would be only the beginning of investigations of a like character.

DISEASES OF THE SKIN IN RELATION TO HEPATIC AND RENAL DISORDERS.*

By L. Duncan Bulkley, A.M., M.D., New York.

Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital, etc.

THE liver is, next to the skin, the largest secretory organ of the body, forming on an average 1/36 of the total body weight: it has many functions, which are by no means yet clearly differentiated. The liver is no longer looked upon solely as an excretory organ, as its bile function is perhaps one of the least important of the many offices it performs. But from its great size and enormous blood supply, both venous and arterial, we may be sure that its proper action is most significant and that, as has always been believed, it is of vital importance in connection with all of the functions and activities of every other organ and portion of the body, including the skin.

*Read in Symposium at the New York Academy of Medicine, March 14, 1912.

Of the action of the skin and the variation in the quality and quantity of its excretion in health and disease we know very little: though we do know that its excretion does change, as when under certain gouty conditions of the system it becomes acid and may even deposit urates on the surface, also that it can excrete alcohol under certain circumstances, etc.

The relation between derangements of the liver action and diseases of the skin has also been but little observed and studied, and there are relatively few cutaneous disorders which have been definitely traced to and clearly shown to be definitely dependent upon the former. But there are enough of them and also enough indirect indications of an intimate connection between the two, to make the study of a relationship interesting and profitable.

In former times many disorders and diseases of various organs and tissues including the skin, were attributed to derangement of the liver: there came then a time of reaction, when this view was contested and more or less abandoned. But in later years, as its many functions are studied, the liver is acknowledged to be a very important factor in connection with metabolism, and consequently derangements in its action are of much significance in relation to many disorders and diseases of various organs and structures of the body, including the skin.

Hammersten says[1]: "The importance of this organ in the physiological composition of the blood is evident from the fact that the blood coming from the digestive tract, laden with absorbed bodies, must circulate through the liver before it is driven by the heart through different organs and tissues. It has been proved, at least for the carbohydrates, that an assimilation of the absorbed nutritive bodies which are brought to the liver by the blood of the portal vein, takes place in this organ. The occurrence of synthetical processes in the liver has been proved by special observations. It is possible that in the liver certain ammonia combinations are converted into urea or uric acid (in birds), while certain products of putrefaction in the intestines, such as phenol, may be converted by synthesis into ethereal sulphuric acid by the liver. The liver has, also, the property of removing and retaining heterogeneous bodies from the blood: and this is not only true of metallic salts, which are often retained by this organ, but also the alkaloids are retained and probably recomposed by the liver. Toxines are also retained by the liver and hence this organ has a protective action against poisons. . . . . There is no doubt but that the chemical operations going on

[1] Hammersten. A Text-book of Physiological Chemistry, New York, 1898, p. 206.

in this organ are manifold and must be of the greatest importance for the organism."

I shall not attempt here to consider fully the many cutaneous conditions in which this indirect action of liver disturbance is manifested in everyday clinical experience, but must mention a few salient points in this connection.

The three principal functions of the liver are recognized to be: 1. Internal secretion of glycogen. 2. Formation of urea. 3. Production of bile. With the disturbance of each of these functions certain cutaneous conditions have been pretty clearly connected, while the general influence of faulty liver action has long been recognized clinically by many acute observers.

Perhaps the most striking and definite skin affection connected with liver disorder is found in the *pruritus* which accompanies jaundice. Here the circulation of bile products, in addition to discoloration of the skin, will frequently excite an amount of itching which is often well nigh unbearable and which does not readily yield to therapeutic measures, until relief has been had to the original liver disorder. Murchison[1] states that while it is absent in many cases of jaundice, he has "frequently known itchiness of the skin to be a source of extreme distress to patients with hepatic derangement unaccompanied with jaundice."

Xanthoma in its multiple form has been shown pretty clearly by Hutchinson and others to be associated with biliary disturbance and jaundice, in a considerable proportion of cases at least: while another form of the disease, exhibiting more inflammatory lesions, has so far been connected with a faulty glycogenic action of the liver, as to have received the name *xanthoma diabeticorum*[2].

Boils and Carbuncles are so often associated with glycosuria that this is universally recognized as an effective predisposing cause of that condition of the skin in which pus cocci find a satisfactory soil for their growth.

Disturbance of the urea and uric-acid-formation function of the liver plays a not inconsiderable part in connection with several diseases of the skin. It must be granted that much of the evidence of this is clinical and not thus far demonstrated by actual chemical or laboratory tests, but the impression of a relationship is so strong among able clinicians that it is practically worthy of full consideration in the laboratory, as therapeutic experience also supports it so

[1] Murchison. Functional Derangement of the Liver, London, 1871, p. 144.

[2] *Brit. Jour. Dermat.*, 1892, p. 237.

clearly. As an illustration I want to quote a sentence or two from the late Dr. Tilbury Fox, of London[1], and I might add that there has never been a dermatologist with broader and more correct views concerning the relation of diseases of the skin to internal disorders. "All disorders which are connected with retention of excreta in the system and their circulation through the blood current, may furnish the exciting cause of *eczema*. This is a clinical fact of great importance. Given the tendency to eczema, then the transmission of uric acid through the capillaries of the skin will so far derange as to aggravate certainly, and now and again excite, an eczematous eruption. This is what is meant by gouty eczema: and by securing the absence of the uric acid from the circulation, the eczema will often disappear and always be more amenable to treatment. . . . . Such cases as I now refer to sometimes exist off and on for years and are saturated with arsenic and mercurials, but are only relieved by recognizing the complicating item of the free production and circulation of uric acid and by instituting a *regime* calculated to arrest the continuance of those conditions." This was written some years ago and we may now substitute for "uric acid" the "products of faulty liver action."

Urticaria is also an eruption which has been traced by Murchison and others to functional derangement of the liver. Finally, *pigmentation of the skin*, varying all the way from a dirty, sallow complexion to well-defined *chloasma*, certainly results from hepatic derangement in a certain number of cases, as the results of treatment often show very conclusively.

The exact manner in which disorder of the liver affects the skin has never been demonstrated, but it can be readily understood that a toxæmia from imperfect liver action may irritate the nerves and cells of the skin and this, with the conjunction of external causes, or independently, can give rise to pruritic sensations and alterations of structure, even as it can cause pain and changes in the joints in gout and deforming arthritis.

The connection between *renal* derangements and diseases of the skin is a more satisfactory field of observation and research, because of the ease with which the urinary excretion can be secured and analyzed and the readiness with which the relations between its varying composition and the condition of different eruptions can be noted. As a consequence a large number of clinicians have recorded observations bearing on this subject, which lack of time

[1] Tilbury Fox, Skin Diseases, London, 1873, p. 175.

will prevent my considering at all fully, and only an outline exhibiting the main features of this interesting and important subject can be presented.

Few realize sufficiently what a perfect indicator the urine is, of the manner in which the metabolism of the body is performed. After the blood has received the elements of nutrition from the stomach and intestines and has been prepared and modified by the various organs, including the internal secretions, it also receives various excrementitious substances from the tissues. Then, after it has been aërated and purified by the lungs and is on its way through the aorta to nourish the body, a small artery takes, as it were, a sample of this arterial blood to each kidney for final judgment as to its quality and for the removal from it, of injurious substances, as far as possible; this relatively small portion of purified blood is then returned to the vena cava and thus again to the lungs, for further oxidation. It is to be remembered that only a relatively small portion of the blood flows at one time through the kidneys,* while the great bulk of it passes unchanged directly to nourish the brain and the rest of the body, waiting for its later purification by the kidneys. These organs might, therefore, be spoken of as the final judges of what perfect blood should be, as their function is to eliminate substances injurious to the body.

The urine, therefore, is a most perfect exponent of the katabolism and anabolism of the system and too much stress cannot be laid upon the importance of its repeated and complete volumetric analysis in connection with the treatment of very many cases of disease of the skin: for by it we may learn, daily if we wish, much which cannot be otherwise ascertained in regard to the manner in which the nutritive processes of the body are carried out and the character of the blood which induces the cutaneous disorder.

Perhaps the most striking illustration of this is found in connection with two cases of *dermatitis herpetiformis* recorded by Hardouin[1]. Making a daily analysis of the urine of twenty-four hours, over a period of nearly six months, he found that in one case, on eight occasions, at pretty regular intervals, there was a fresh outbreak of the eruption after a period of diminished excretion of urea. In the second case the onset of the attack repeatedly coincided with

*Under forced diuresis it is estimated that only 1/20 of the blood passes through the kidneys in a minute. Howell, Text-book of Physiology, Philadelphia, 1906, p. 749.

[1] Hardouin. Ann. de dermat. et de syph., 1900, p. 1137.

the lowest point of urea excretion. This relationship has been confirmed by other observers.

In the study of the relation of diseases of the skin to renal derangements it is understood, therefore, that it refers to certain conditions of the skin accompanying imperfect or disordered urinary secretion, generally from kidneys not organically diseased and not to any relation between actual diseases of the kidney and those of the skin: for thus far very few of the latter have been reported, while large numbers of observers have recorded apparently causal relations between functional derangements of the urine and certain diseases of the skin. It is not, therefore, albumin and casts, or glycosuria, which are sought for, but the volumetric changes in the quantities of the many constitutents of urine which might be ordinarily considered normal, were it not that it is often quite imperfect in regard to some of its elements. It is thus further seen that the subject of urinary derangement in its relation to diseases of the skin is very intimately connected with that of hepatic disorders, already considered; indeed, it is also closely related to metabolism in general and as such must be studied. It is to be remembered that the urinary excretion represents nearly one-half of the total body excreta, and practically all of the nitrogenous and soluble mineral substances excreted, together with about one-half of the water expelled from the system.

The relations between the skin and the secretion from the kidneys is a matter of everyday observation in medical practice. All are familiar with the temporary changes in the urine which may take place from a chilling of the surface, or in fever, also with a dry, parched skin in chronic Bright's disease, and all are equally familiar with the relief given to congested kidneys by free diaphoresis, etc.

The converse, however, has not been as clearly recognized and known, and the relations of faulty kidney secretion to the integrity of the skin and its functions have not been as fully acknowledged. Unfortunately we are not yet in a position to establish these relations as definitely as could be desired, but enough is known to show very clearly the immense significance of certain functional departures from health observed in the urine in their connection with certain diseases of the skin, and likewise the very great value of recognizing and correcting them from a therapeutic point of view.

It has long been the practice of many to consider the condition of the urine in regard to many general affections and as an indication of health, as for instance in Life Insurance; but in these examinations reference has been made mainly to the detection of actual disease in the kidneys and glycosuria, and as a rule relatively little

attention is paid to functional disorders of excretion. And yet insufficient and defective action of the kidneys play a most important part in connection with very many diseases and are of especial significance in relation to certain affections of the skin: for it is well to remember, that the skin performs its functions more or less vicariously with those of the kidneys.

Not only is it important that the chemical ingredients of the urine should be in the proportions belonging to health, but it is essential that the individual should pass them in sufficient quantity. In numbers of patients who suppose and claim that they pass sufficient urine, it will be found on actual daily measurement that the quantity is not one-half of the normal amount: and continually it will be found that the excretion of urinary solids is very far below the normal standard, which is about seven or eight grains per day for each pound of body weight; occasionally far less than even one-half of this amount is excreted. One lady, weighing 163 pounds, with severe *psoriasis*, passed but thirteen ounces of urine on the day before her visit and on other days had passed eleven and even as little as seven ounces of urine in the twenty-four hours: naturally it was of a very high specific gravity, but the total amount of solids she was excreting was only a small portion of what should be normally expected from one in her active state of life. Clinically this is found to be a common occurrence in psoriasis, namely, that the total volume of urine and the total excretion of solids is far below the average of persons in a normal condition of health.

It is recognized, of course, that the urine is only the exponent of the life of the individual, varying greatly according to the food and the amount of fluid taken, the mode of life, etc., but it is just here where the practical part of our study comes in: namely, that if the urine is frequently and rightly analyzed volumetrically and the results rightly interpreted, it affords an invaluable method of learning the manner in which metabolism is effected, with therapeutic suggestions along the line of diet and hygiene, as well as medication. A scanty, thick urine certainly demands that the patient increase the amount of fluid imbibed and, as will be seen later, there are many indications constantly arising from repeated study of the urine which help materially in the treatment of many cutaneous conditions.

The *actual volumetric acidity* of the urine, as measured quite easily by the oxalic acid and phenolphthalein test, often affords the greatest aid in determining the exact state of the patient as to the degree of alkalinity of the blood. With a standard of about .300

for the average acidity of the urine, it must certainly make a great difference in regard to diet and medication when the acidity is found to be .600, or .800, or even 1.200, as I have sometimes found it, or when it is reduced to .126 or even .063, or when it is strongly alkaline, even without any bladder complications; for it must be remembered, as before mentioned, that the urine is formed directly from the arterial blood, there being only "two very thin layers," namely, the epithelium of the capsule and the glomerular epithelium, between the circulating arterial blood and the excreted urine. This affords as Howell[1] says, "most favorable conditions for filtration of liquid parts of the blood."

Practically, the relation of this high acidity is continually observed in connection with many diseases of the skin and eruptions will often be seen to be red and congested, and the itching increased when there is a high acidity, and to be relieved when the urinary acidity is reduced by appropriate treatment. Conversely, I recall one case of *urticaria* which proved rebellious, until on analysis of the urine the acidity was found to be .063, almost neutral, when the eruption was arrested promptly on the free administration of urotropin, bringing the acidity of the urine up to normal.

The daily excretion of *urea*, as all know, affords a valuable indication of the nitrogenous metabolism of the system, which often has an important bearing upon certain diseases of the skin, notably *psoriasis*. Mention has already been made of *dermatitis herpetiformis*, where with a diminished excretion of urea the eruption was found to reappear on many occasions, over a period of several months, in two cases; this has been verified by others and also in a case in the New York Skin and Cancer Hospital. It is recognized, of course, that the excretion of urea may be affected by many conditions and is influenced largely by the quantity of nuclear and proteid substances in the diet, also that it may be held back in the system and then excreted in larger quantities. But all this has an important bearing on certain congestive conditions of the skin, as in my own personal case, with an *acute vesicular* eruption, when, after five days of rice, bread, butter and water diet, with the total exclusion of exogenous proteids, the excretion of urea and uric acid was greater at the end of this treatment than it was before it was begun; this washing out of endogenous proteids was attended with the almost immediate and complete subsidence of the eruption, without other treatment, on repeated occasions.

Indican in excess in the urine is being recognized more and more

[1] Howell. A Text-book of Physiology, Philadelphia, 1906, p. 742.

as a valuable indicator of putrefactive changes occurring in proteids, mainly in the large intestines. The indol produced by bacteria in the intestine is eliminated in part in the fæces, but in part is absorbed into the blood and conjugated with sulphuric acid and then eliminated in the urine as indican. In the blood these milder forms of intestinal disturbance make themselves known by the symptoms classed together under the expression "biliousness" and it has been shown experimentally that part, at least, of the lassitude and headache which accompany this condition can be produced by the administration of small doses of indol or indoxyl to healthy persons.[1]

Certain it is that many cases of *urticaria* arise from intestinal putrefaction and careful examination of the urine as to indican will often afford intelligent indications for treatment, such as colon irrigations, etc.; the same is more or less true in regard to *eczema*, *acne* and perhaps other affections of the skin.

Normal Urine, which has been described as a solution of the waste products of the body, is a most complex substance: physiological chemists describe over two dozen organic and inorganic ingredients, in regard to many of which we know but little and, in addition, there are about the same number of possible pathological elements. In a study such as this, with our limited knowledge of metabolism and of the significance of its end products, it is not possible to indicate at all clearly the definite relation of many of these urinary changes to disease of the skin, or indeed, of other organs. But there are some other of the urinary constituents the knowledge in regard to which will often help more or less in the guidance of the therapeutics of certain cutaneous affections.

Uric Acid has for some time been a catchword which has perhaps served a good purpose in directing attention to the results of the faulty metabolism of nitrogenous products; but the steady progress of physiological chemistry has minimized its individual importance as an active agent in producing disease of tissue, although undoubtedly the purin bodies are of consequence, from which uric acid is supposed to be elaborated. It is now pretty well conceded that uric acid is not a stage in the formation of urea, but is formed in the body by the decomposition of the nucleins of the cells of the food and of the body; it is certainly increased by the ingestion of tissues rich in nuclein, like sweet-breads and liver and in other ways.

But the well-known occurrence of urates in the urine and the appearance of crystals of uric acid, are always of more or less signi-

[1] Wood. Chemical and Microscopical Diagnosis, New York, 1905, p. 446.

ficance in many diseases of the skin, which are frequently aggravated when they appear in the urine; they may very commonly be found in patients with chronic dermatoses and afford a good indication of the so-called "gouty state" often associated with them; and as they are caused to disappear from the urine under proper dietetic and medicinal means, the eruption will often yield much more readily to proper treatment.

Oxalate of Lime, when found crystallized in the urine, was formerly regarded more seriously then it is to-day, as a sign of systemic disturbance; it is, of course, still of considerable importance in regard to the possible formation of calculi. It has been shown, however, that abundant crystals of oxalate of lime can appear in the urine without there being an excessive excretion of oxalic acid, but when they do appear it certainly shows some disturbance in the composition of the urine which should hold the oxalic acid in solution. From 10 to 20 milligrams of oxalic acid are excreted in the urine under ordinary circumstances, though the amount may occasionally reach 50 milligrams: and crystals of oxalate of lime have been demonstrated when the output of oxalic acid was only 25 milligrams.

Clinically, however, the finding of crystals of oxalate of lime in the urine does commonly indicate gastro-intestinal disturbances, or those of the liver, which are often found to be of significance in connection with certain diseases of the skin. Thus, in acute *lichen planus* and *pruritus ani* oxaluria is an indication for the administration of nitric acid, which will often be of the most signal value in these troubles.

The quantitative estimation of the *chlorides* excreted is sometimes of value in connection with the treatment of certain cutaneous affections, as indicating the state or condition of the nutrition at large and the character of the food taken, as they are directly derived therefrom.

The amount of *phosphates* in the urine may also afford considerable information of value along the line of treatment of many patients with diseases of the skin, although, being derived largely from the food, the excretion of phosphates is liable to undergo considerable fluctuation in normal persons, upon variations in diet. Taking this fact into consideration, however, and aside from the discovery of amorphous or crystalline phosphates in the urine (which may be only a sign of diminished urinary acidity, or ammoniacal decomposition), the volumetric estimation of the phosphates excreted is often of great service in treating certain diseases of the

skin associated with or dependent upon neurotic elements. Continued increased elimination will often indicate a waste of nervous tissue and energy, which must be met by proper measures: while in chronic diseases, in which the nutrition of the body suffers, the excretion of phosphates may be far below the normal, even for long periods, which should also be met by proper measures if the best results are to be obtained in treating the condition of the skin.

The *sulphates*, like indican, may often prove a good indicator of the proper metabolism of proteid substances, which, as has been mentioned, will frequently be of great significance in connection with a number of cutaneous affections. With a rise in the amount of sulphates there will almost always be found an increase in the indican and both may be taken as an indication of an amount of proteid intake beyond what is necessary to maintain a proper nitrogenous equilibrium in the body and so may induce an eruption of *psoriasis;* it may also give occasion to irritation of the nerves of the skin, as in *pruritus*, by the circulation in its capillaries of imperfectly elaborated blood.

Time does not allow my pursuing this interesting subject further, but I think that enough has been said to indicate that there are certain relations between deranged action of the liver and the kidneys and many diseases which may affect the skin, which are well worthy of serious attention. Mention has been made of a number of more or less acute and some chronic cutaneous affections in regard to which functional disturbances of liver and kidney action have been observed to be of ætiological moment. Is it not, therefore, probable that careful study will demonstrate that the same is more or less true of other eruptions which have not thus far been investigated in this direction and possibly that in every case in which the skin is diseased in any way, with few exceptions, there may be some metabolic errors, which may be evidenced in the urine, if sufficient time, patience and skill are employed? Skin diseases as a class are notoriously rebellious to treatment and many are prone to recur, and it behooves dermatology as a branch to look away from a purely local ætiology and therapeutics and to seek for the underlying causes, which are so often found to depend upon a defective metabolism, which is commonly indicated by hepatic and renal disorders.

531 Madison Avenue.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, April 23, 1912.

HERMAN G. KLOTZ, M.D., *President.*

Two Cases of Epithelioma Treated with Curettage and Acid Nitrate of Mercury. Presented by DR. SHERWELL.

Mr. P. B., fifty-six years old, born in the United States. The patient had been operated upon by Dr. Sherwell in the latter part of January, the epithelioma having been present for about thirteen years, commencing as a small tumor just under the left orbital region. The growth had been steady and progressive, always toward the left lower lid and covering a large amount of the cheek on that side. Previous to coming to Dr. Sherwell, she had been treated with salves and light caustics. The speaker then curetted the entire region deeply and made repeated applications of acid nitrate of mercury. The second case was one that had been previously reported with illustrations (Case 3) in THE JOURNAL for October, 1910. What appeared to be a possible small recurrence was observed about three weeks ago. It was then curetted and acid nitrate of mercury applied. The first operation was performed four and a half years previously.

Unilateral Pigmentary Nævus. Presented by DR. JACKSON.

The patient was a girl eight years of age. The disease was said to have appeared when she was four years old as a pea-sized, almost black tumor on the lower part of the right cheek. At about the same time the rest of the lesions on the face and body appeared. When shown, the whole of the right cheek was sown over with small, brown, pigmented spots, many of them about the size of the head of a large pin. Similar lesions were on the right shoulder and upper part of the right arm. Behind the right ear and on the neck were splashes of blackish or gray pigment. Scattered through the affected area were a few raised, firm, pea-sized tumors of a brown or black color. On the lobe and edge of the right ear were three or four similar lesions but of a red color. The question raised was whether the tumors were melanotic carcinomata. The patient was kindly sent to the Society by Dr. Lotta W. Myers of the New York Infirmary for Women and Children.

DR. MORROW thought that it might possibly be a nævus. The fact that the condition was not congenital was no objection to that diagnosis, for many diseases of that character, which were developmental, so to speak, did not appear until some time after birth.

DRS. DADE, Whitehouse and Fordyce agreed with the diagnosis of nævus.

Dr. G. H. Fox said that it resembled cases of unilateral lentigo which doubtless all had seen with the added feature of some pigmentary nævi. He did not think that there was any malignancy connected with the condition.

Dr. Jackson said that he regarded it as a case of unilateral lentigo, but had brought it before the Society to ascertain if any one regarded the blackish tumors as malignant. The lesion on the lower part of the cheek was very much like the one on the end of the nose of a little girl whom he had presented to the Society some time ago and which proved to be malignant.

Bazin's Disease. Presented by Dr. Fordyce.

The patient was a young woman, aged twenty-three, born in this country. She worked in a factory, where she was compelled to stand a great deal, but not constantly. The present condition had existed for eight months. She had had a similar attack a year ago, which lasted only three months. There was some pain. The Wassermann test was negative. The von Pirquet test had also been made, and the positive result could be seen when the case was presented. The lesions were scattered over the posterior surfaces of both legs below the knees, and were rather superficial. The surface of some of the lesions was slightly crusted and markedly pigmented, but there had been no ulceration.

The diagnosis was generally accepted.

Dr. MacKee said that these cases yielded very promptly to tuberculin therapy and it was his intention to start tuberculin treatment the following day and that, with Dr. Fordyce's permission, he would present the case later, showing the result of the treatment.

Erythrodermie Pityriasiques en Plaques Disséminées. Presented by Dr. Whitehouse.

Dora L., seventeen years old. The disease began when she was two years old and had been present ever since, improving in warm weather, but never entirely disappearing. It was attended with little or no itching or discomfort. The eruption consisted of pale, red-colored patches from the size of a split pea to plaques two inches in diameter, of circular or irregular elliptical shape with sharply defined periphery. There was no infiltration, and only a fine, furfuraceous scaling, which was slightly accentuated in winter. Some of the patches had a crinkly, cigarette-paper appearance resembling pityriasis rosea, and a very slight atrophy was discernible in some places. The distribution was quite general, but thicker upon the buttocks and thighs, extensors of forearms (quite diffuse over the elbows), and legs. There were only a few small patches scattered over the trunk, front and back. The eruption first appeared on the forearms six months ago. The face was the seat of a superficial, pinkish, slightly scaly eruption, resembling seborrhœic dermatitis and there were patches through the scalp resembling seborrhœa. The patient seemed perfectly healthy; none of the other members of the family had any skin trouble.

Dr. Trimble said he was inclined to agree with Dr. Whitehouse's diagnosis. The lesions on the knees were rather characteristic of psoriasis, but the body

lesions were quite different. The long duration, the absence of itching and infiltration all pointed to parapsoriasis.

Mycosis Fungoides. Presented by Dr. Fordyce.

The patient was a woman, fifty-five years of age, born in Germany. The family history was negative. The present trouble was of two years' duration. The eruption consisted of thirty or forty plaques varying in size from a ten-cent piece to the palm of a hand. The patches involved the flexor and extensor surfaces of the extremities, the buttocks and the sides of the abdomen and thorax. The lesions were dull red in color, for the most part perfectly smooth, slightly infiltrated, well-marginated and very pruritic. None of the plaques had shown any tendency to spontaneous involution. In the centre of many of the lesions could be seen a distinct papule or area of marked infiltration which was considered to be the beginning of the fungating stage of the disease.

The speaker referred to a case of mycosis fungoides to whom he had administered four injections of salvarsan with little or no effect on the development of the cutaneous lesions. The only agent up to this time that appeared to affect the disease in the slightest manner was the X-ray.

Dr. MacKee said that the patient would be given the benefit of X-ray treatment and the result would be reported to the Society in the Fall.

Lymphatic Leukæmia with Associated Skin Eruption. Presented by Dr. Whitehouse.

G. T., a woman, forty-five years of age. Family history negative. Menopause, one year ago. The leukæmia began a year ago, first being noticed in the glands of the neck, finally involving the lymphatic glands in general. At the time of presentation, all the neck glands were enormously enlarged, as well as those in the axillary and inguinal regions, upper arms, etc. The liver and spleen were also enormously enlarged. The skin eruption began six weeks ago, appearing first on the forearms, then on the face and legs, and finally becoming general, including the palms and soles. It consisted of hard, shotty, deep-seated papules and vesicles, showing but slight tendency to grouping. The lesions were quite red and inflammatory, and many of them were capped by a blood crust due to scratching, as the itching was very intense.

The pathological report on lymph nodes removed from above the elbow was that of lymphatic leukæmia. A biopsy of the skin lesions showed a deep infiltration of small round cells in the derma, much resembling the infiltration in the other organs of the body in lymphatic leukæmia. No acanthosis; no marked dilatation of the blood vessels; no hyper- or parakeratosis; no spongiosis. Hæmaglobin, 85%; red blood corpuscles 3,968,000; white blood corpuscles, 435,000. Differential count; polymorphonuclears, 1.8%; small mononuclears and lymphocytes, 97%; large mononuclears, 2%; transitionals, 6%; eosinophiles, 4%. Urine: amber, acid, 1020, no albumin or sugar. Urea, 3.3%; no indican; epithelial cells and pus.

The question was; was the eruption a part of the leukæmia?

Dr. Jackson said that the condition clinically was dermatitis herpetiformis.

The extreme itching, the chronicity, the grouping of the papules, etc., all accorded with that diagnosis. We knew very little about the ætiology of that disease. Perhaps the status lymphaticus might be one of the predisposing causes.

Dr. Winfield said that he had seen some cases of leukæmia cutis. The tumors were usually hard, translucent in color, and accompanied with itching. He understood Dr. Whitehouse to say that these lesions were vesicular. It seemed to him that the cutaneous condition was dermatitis herpetiformis and as such simply a complication of the general systemic disease.

Dr. Sherwell said that he had seen a case of leukæmia cutis which was influenced in a most beneficial manner by the X-ray. The improvement was demonstrated in both the blood and the skin, but it was only temporary.

Dr. Fordyce said that the case interested him very much for he had about one year ago seen a patient with leukæmia who presented similar skin lesions.. He believed that the skin manifestations in Dr. Whitehouse's case, although they corresponded closely with dermatitis herpetiformis were undoubtedly connected with the underlying condition. This view was supported by the histological findings.

Dr. Whitehouse said that he felt much as Dr. Fordyce did, and that much of our nomenclature was merely a matter of name. If we found dermatoses in connection with recognized pathological conditions it might help to elucidate some of our skin conditions and lesions. The pathological findings in this case would seem to indicate that they were identical with those in other organs of the body, and while the clinical type was that of dermatitis herpetiformis, it was a most interesting association in connection with a serious generalized disease.

Morphœa. Presented by Dr. Morrow.

The patient, who was presented through the courtesy of Dr. Bryant, was a female, thirty-five years of age. The disease began in 1902 directly after a severe sunburn, and made its first appearance upon the back of the neck. When presented to the Society, there were numerous white spots scattered over the neck and chest, and varying in size from a pinhead to a dime. Some of the macules were round while most of them were somewhat elongated. There was considerable grouping. The older lesions were slightly wrinkled and were devoid of lanugo. On the lower eyelids were a number of yellowish-white lesions resembling xanthelasma.

There was a general agreement with the diagnosis of morphœa.

Dr. Morrow said that the most characteristic development of the case was on the abdomen. The sunburn to which Dr. Bryant was inclined to attribute the origin of the disease played no part in the ætiology. On the abdomen, thighs, and other regions which had not been exposed to the sunlight, the condition was very much more characteristic.

Pigmentary Syphilide. Presented by Dr. Kingsbury.

The patient was a man forty-three years of age. When questioned he stated that he had had the white spots on his neck for probably three years and gave a fairly clear history of leutic infection that had occurred at least ten years previous to their appearance. The pigmentary changes

were quite characteristic but no other lesions suggestive of syphilis were discovered. The Wassermann reaction was mildly positive.

Dr. Howard Fox said that while syphilitic leucoderma, especially in females rapidly disappeared as a rule, he had known cases where the white spots remained for many years.

Lupus Erythematosus. Presented by Dr. Trimble.

The patient was a young man, eighteen years of age, born in the United States. He had three extremely small lesions on the lower eyelids, very close to the free border. They were only slightly infiltrated. The case was shown on account of the peculiar location and the smallness of the lesions. The present condition had existed for one year.

Dr. Morrow said that the case was rather unusual in being confined to that particular locality. He had seen lupus erythematosus involving the lower lid, but always in connection with patches on the cheek.

Lichen Planus. Presented by Dr. Kingsbury.

The patient was an Italian laborer forty-two years of age. The eruption was very general and was said to have been present for four weeks. The man had had a severe cold and for its relief had applied porous plasters to his back and chest. At the time that he was before the Society these had been but recently removed and it was then found that two large square patches, composed of confluent lichen papules, had developed on the areas that had been covered by the plasters.

There was a general agreement that the condition was an acute lichen planus.

Epithelioma of the Penis. Presented by Dr. Kingsbury.

The patient was a married man forty-nine years of age. The penis was small and of stony hardness and there was an ulcerated area half an inch in diameter at the meatus, with surrounding granulations on the glans. The inguinal glands were enlarged and indurated. A Wassermann reaction was negative.

Drs. Fordyce and Winfield both said that amputation was the only thing to be done.

Dr. MacKee said that inasmuch as the glands were involved he did not see what good would be effected by amputation alone. He would advise treating both the penis and the inguinal glands with the X-ray. Or, the glands might be ablated and then both the penis and the inguinal region subjected to proper radiation.

Dr. Klotz agreed with Dr. MacKee that removal of the inguinal glands followed by applications of the X-ray was the best way to treat the case. It might, also, be advisable to amputate the penis. He had presented some years ago to the Society a cornu cutaneum originating from the glans penis. Later on, an epithelioma developed on the base of the horn and amputation of the penis and of the inguinal glands on both sides was performed. The patient was still alive.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

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Dermatologische Wochenschrift.

(July 27, 1912, lv, No. 30).

Abstracted by Fred Wise, M.D.

The Histology of Urticaria Perstans Papulosa. F. von Krzysztalowicz, p. 939.

The paper deals with the chronic, persistent form of urticaria which occurs in adults, a rare dermatosis, first described by Willan and Cazenave, later by F. J. Pick. The subject from which the histological study of the disease was made was a patient aged 21, a male, in whom the disease had persisted for ten months. The most prominent changes in all of the excised papules occurred in the upper portions of the cutis. Here large aggregations of cells were seen, packed closely together, occupying the upper portion of the cutis and crowding the epithelium upward. These cell-masses were somewhat sharply circumscribed, with prolongations extending for various distances into the body of the papule itself. Apparently these prolongations accompanied the blood vessels in their course. Beneath the epithelium a narrow strip of the pars papillaris could be seen, walling off the cell-masses above. These remarkable aggregations of closely packed cells proved to be mast-cells with numbers of connective-tissue cells in their midst. The older the papule, the fewer mast-cells did it contain and the more connective-tissue cells; the reverse was true in the newer lesions. The epithelium of the papules presented collections of fine, brown pigment granules, some of which also occurred in the papillary layer of the cutis. The nuclei of the mast-cells were uniform in size and occupied nearly the entire cell-body; here and there, deviations from this regularity were noted, in that the granules varied in size and in their mosaic-like arrangement. The author believes with other investigators, that these mast cells are altered forms of connective-tissue cells, derived from the perithelium of the blood vessels.

The histological picture coincided in many ways, with the clinical appearance of the disease; the most pronounced feature of the eruption is its brown color:

a brown spot, upon which rests a brown papule. This tint is produced by the crowded masses of pigment granules in the epithelium and to some extent, also, in the cutis; the papule itself is brought about by the collection of mast-cells. The occurrence of such prominent and well-marked mast-cell infiltrations must be looked upon as being peculiar to urticaria alone. Over fifty references to the literature of this subject are appended at the end of the paper.

(*Ibidem,* Aug. 3, 1912, lv. No. 31).

Concerning the Temperature-raising Factors in Intravenous Injections of Salvarsan. G. Nobl and S. Peller, p. 971.

In attempting to explain the cause or causes of the rise of temperature following intravenous salvarsan injections, the majority of investigators have supported the theory of incomplete or imperfect (faulty) sterilization of the vehicle. Others have believed that the cause is to be sought in the too concentrated solutions, while still others consider neither of these theories tenable. Nobl and Peller conducted a series of experiments on about 150 patients, with the object of determining, if possible, this much discussed question. They concluded, to their own satisfaction, that the most careful, the most painstaking, the most scientific sterilization will not eliminate the fever, contrary to the oft-quoted dictum of Wechselmann. In fact, they believe that there actually is no causal relation between the rise of temperature and the bacterial contamination of the salvarsan solution. It is also doubtful, in their opinion, if the advent of the fever itself points to the existence of toxines circulating in the blood-stream, produced by the disintegration of large numbers of spirochætæ by the salvarsan.

In a general way, they found that the highest percentages of fever-reactions were obtained in that series of cases receiving the largest doses of salvarsan, but that these temperatures were prone to show considerable variations in degree, depending largely upon the stage of the disease which the patients presented at the time of the administration of the remedy. They came to this conclusion: the older the initial lesion, the more recent the generalization of systemic symptoms, the greater the relative dose of salvarsan—the higher will be the temperature reaction. It has often been shown that subsequent (second or third) injections of salvarsan often produce little or no fever—a fact which speaks strongly against the theory that the rise of temperature is caused by faulty sterilization, too great a concentration of sodium chloride, etc. The symptoms of vomiting, diarrhœa, headache, etc., following the intravenous infusion of salvarsan are ascribed to the toxic effects of the drug itself, not to any other factors; in what manner these toxines are produced, has not, as yet, been decided.

(*Ibidem,* Aug. 10, 1912, lv, No. 32).

Intensive and Rapid Staining of the Treponema Pallidum and Other Spirochætæ. A. Fontana, p. 1003.

1. The smear is diluted with a drop of water and spread on the slide; dry in air and fix over flame.

2. Apply a few drops of the following solution: (A). Tannic acid, 5.00, distilled water 100.00, for 30 seconds until faint evaporation takes place, followed by washing in running water for 30 seconds.

3. Apply a few drops of the following solution: (B). Silver nitrate, 5.00, distilled water, 100.00, fluid ammoniac, 9.00, heat over flame for 20 or 30 seconds; wash, then dry with paper.

The entire process requires 70 to 80 seconds. The reagent remains active for months. The author employed the method successfully in staining the Treponema pallidum, Spirochæta refringens, Spirochæta balanitidis, Spirochæta dentium and Spirochæta buccalis.

Concerning Acid and Alkaline Salvarsan Solutions. H. Struve, p. 1005.

Two series of patients were given salvarsan infusions, one series receiving the alkaline, the other series the acid solutions. In every way, both subjectively and objectively, the alkaline solutions proved to be the least objectionable. The usual after-effects and reactions were far more marked in the patients receiving the acid solutions and the existing lesions required a longer time to heal than in the cases treated with the alkaline solutions; the Wassermann reaction remained positive for a much longer period in the patients treated with the acid solutions.

(*Ibidem*, Aug. 17, 1912, lv. No. 33).

Lupus Miliaris Disseminatus Faciei. G. B. Dalla Favera, p. 1027.

The author describes in detail a case of this disease, starting from a focus of lupus vulgaris of the ala and interior of the nose and disseminated by means of the lymph circulation to the skin of the entire face. The disease occurred in a middle-aged woman afflicted with pulmonary tuberculosis and lupus of the nose and the nasal mucous membrane. After a series of attacks of facial erysipelas, the eruption of disseminated lupus appeared acutely in the form of miliary lupous spots and nodules; tuberculin and animal inoculation tests were positive; tubercle bacilli were found in the lesions.

The probable modes of dissemination are discussed and three routes are considered: 1, the exogenous, or infection of the skin from without, by contamination from the nasal discharges; 2, the hæmatogenous, or dissemination through the blood stream; histological studies of the tissues showed this route to be an unlikely one; 3, the lymphatic, which is the most probable path of dissemination and was no doubt aided and encouraged by the preceding attacks of erysipelas, which caused a dilatation of the lymph vessels and spaces. The dissemination, in all likelihood, is therefore due to a regional metastasis through the lymph circulation of the skin of the face, where the lymphatic anastamoses are very plentiful.

(*Ibidem*, Aug. 24, 1912, lv, No. 34).

Influence of the Biliary Acid Salts Secretion on Gonococci. Karwowski, p. 1059.

(*Ibidem*, Aug. 31, 1912, lv, No. 35).

Topical Bacteriotherapy of the Skin. J. Peyri, p. 1083.

The author conducted a series of experiments with local applications of brewer's yeast, milk bacilli, milk combined with the Bulgarian bacillus and with staphylococcus cultures; he employed these agents in impetigo contagiosa, impetigo of Bockhart, echthyma, sycosis, eczema, acne, seborrhœa, tinea tonsurans, etc. He concludes as follows:

1. The similarity between infectious processes of the skin and of the alimentary canal, induced the author to employ a form of local bacteriotherapy to the skin, by means of large quantities of harmless bacteria applied to the diseased parts, very much as is done in the bacteriotherapy of the intestinal canal.

2. Various forms of harmless bacteria were employed, notably those forms which, when administered in similar pathological processes as those mentioned above, acted favorably through a natural autophagy of the pathogenic germs with which they came into contact.

3. In the superficial pyodermias the application of brewer's yeast always resulted in a more rapid cure of the lesions than is the case under ordinary forms of treatment; to a lesser degree, the same holds good for the lactic acid

ferments (Bacillus Bulgaricus, sour-milk bacillus of Metschnikoff and Bacterium paralacticum).

4. In all lesions associated with seborrhœa, the use of Bulgarian bacillus cultures in milk seemed to act very favorably.

5. The application of staphylococcus cultures derived from inflammatory lesions of tinea tonsurans, when administered to non-inflammatory forms of trichophytosis in the shape of warm, moist compresses, showed moderately good results.

(*Ibidem*, Sept. 7, 1912, lv, No. 36).

Erythema Elevatum et Diutinum. G. Piccardi, p. 1115.

The article includes the recital of a case of this disease in detail with a résumé of the literature on the subject and a discussion of the various reports of cases of similar dermatoses. Since Crocker and William first described this form of chronic, persistent erythema under the above title, a number of observers have reported, under various names, cases in many ways resembling the disease in question. Among these is Audry's description of a case which he named erythématosclérose pseudo-cheloidienne, C. Fox's "ringed eruption," Dubreuilh's eruption circinée chronique de la main, Galloway's lichen annularis, Crocker's granuloma annulare—the last designation being adopted by the majority of observers. Rasch, Gregerson and Galewsky have described cases of this type under the title of tumores sarcoidei benigni. Whether these various designations have been applied to separate entities, or whether we are dealing with variations in type of one and the same disease has not been definitely decided. Della Favera had under observation three cases, two of which were identical with the description of erythema elevatum et diutinum while the other fitted in with the description of granuloma annulare.

The chronic erythema polymorphe has certain characteristics in common with erythema elevatum et diutinum: the rheumatic ætiologic factor, the acute onset, symmetrical distribution, predilection for the extensor surfaces of the extremities and, in the early stages, the erythemato-vesicular and papulo-hæmorrhagic character of the lesions—these factors obtain in both types of eruption. In erythema polymorphe, however, there is a tendency to greater persistence of the lesions, their duration is much longer and they become transformed into hard, circumscribed, keloidal papules, covered with a hyperkeratotic epidermis.

The author describes a case of erythema elevatum et diutinum from which he made a thorough histological study. He points out the differences in the pathological structures of similar diseases, as described by a number of observers under the various titles quoted above.

Japanische Zeitschrift für Dermatologie und Urologie.

(July, 1912, xxi, No. 7).

Abstracted by Fred Wise, M.D.

A Case of Cutis Verticis Gyrata. Yamada, p. 621.

A male, aged 40, presented symmetrically, on each side of the head, three longitudinal furrows, 2 to 3 cm. wide, 1 to 1½ cm. high, extending from the forehead directly backward, with deeply indented grooves running parallel to the furrows.

A Case of Plerocerceides Prolifer. Inouye, p. 622.

This parasite of man, discovered by Iijima of Tokyo, was found by the author

in pinhead to pea-sized nodules in the skin of a man, the lesions being scattered chiefly on the upper extremities, the abdomen and the chest. The lesions were said to have begun to make their appearance thirteen years ago, on the inner surfaces of the upper extremities.

Concerning Pellagra. Sakurane and Yamada, p. 625.

Clinical and histological study of a patient born in Japan, who had never eaten maize.

Concerning Pigmented Syphilis. Asahi, p. 639.

Just as pigmented, atrophic spots are sometimes prone to appear at the site of luetic lesions, as well as on normal appearing skin in the syphilitic, so also pigmented, hypertrophic lesions may appear spontaneously, in apparently undisturbed areas of the skin. Two cases of this kind are described in this article. In one, dark pigmented spots appeared on the forehead, in the other, in the nasolabial fold; in both cases, the lesions appeared six months after the infection.

Relationship between Salvarsan Treatment and the Wassermann Serodiagnosis of Syphilis. Matsumoto, p. 644.

The author concludes: 1. The positive Wassermann reaction in the initial stage of syphilis becomes rapidly negative, usually, after the salvarsan treatment; cases which are negative remain negative, in this stage. 2. In the tertiary stage, the positive reaction remains uninfluenced despite repeated salvarsan injections, for a long period, while the clinical signs recede relatively quickly. 3. Salvarsan therapy is most efficient in the initial stage of the disease.

Concerning the So-called Paradox Reaction in Wassermann's Serodiagnosis. Matsumoto and Ando, p. 665.

A study made upon 611 cases of syphilis, the results of which are given in two tables.

Further Remarks Concerning Salvarsan Therapy in Our University Clinic. Dohi, Watanabe, and Nakajima, p. 675.

The article discusses the following points: 1. The influence of intravenous injections upon (a), the initial (b), the secondary (c), the tertiary stages of syphilis and upon (d), latent syphilis and (e), upon parasyphilitic manifestations. 2. Concerning recurrences of clinical symptoms and neuro-recurrences. 3. Concerning the Wassermann reaction. 4. Concerning the question of the definite healing of syphilis and the question of reinfection. 5. The use of salvarsan in non-syphilitic diseases.

Contributions to the Radium Therapy of Malignant Tumors. Dohi and Mine, p. 693.

The authors have had very gratifying results with radium in Dohi's clinic. Three instances are described in detail. A case of lymphosarcoma of the shoulder, in a two-year-old child and a case of endothelioma of the parotid with glandular metastases, in a physician of 50, were cured by the application of radium; while a patient with inoperable cancer of the breast showed a remarkably rapid improvement, but unfortunately died of apoplexy during the treatment. (*To be concluded*).

Dermatologische Zeitschrift.

(January, 1912, xix, No. 1).

Abstracted by Philip Frank Shaffner, M.D.

Concerning Newer Therapeutic Measures in Gonorrhœal Complications. R. Rohrbach, p. 1.

The Serodiagnosis of Syphilis. K. Altmann, p. 22.

Altmann discusses the various theories of the Wassermann reaction, the pros and cons for the use of the variously prepared extracts of various sources and the numerous modifications of the original Wassermann technique. Altmann concludes that none of the modifications can replace the original method. He quotes the various conditions in which a positive reaction has been found and finally concludes, after a critical review of the literature and the various methods employed in performing the reaction, that a positive reaction occurs only in syphilis, leprosy, frambœsia tropica, in narcotic blood, in malaria (acute cases) seldom, and in transitory cases of scarlet fever and eclampsia; the practical application of the reaction being in no way decreased through the various exceptions.

Altmann next discusses the percentage of positive reactions in various stages of the disease and the influence of treatment on the reaction, especially in regard to the combined salvarsan-mercurial treatment. This expository article is concluded with a few paragraphs on the significance of a positive reaction for prognosis and therapy—a positive reaction means active syphilis and, therefore, anti-syphilitic treatment. As concerns prognosis, Altmann warns against the assumption that several negative Wassermann reactions mean a cure and states that many negative reactions can become positive after years. He terms such a condition a "Wassermann rezidiv" in that he considers a positive sero-reaction to be a symptom of syphilis. Especially unfavorable are the obstinately positive reactions in the late stages.

Syphilophobia. O. Scheuer, p. 46.

Syphilophobia, a term originating with Ricord, signifying a fear of syphilis, a condition as old as the disease itself, is defined as a hypochondria. It can occur in syphilitic individuals who may be free from all symptoms, in fact entirely cured; or in those who have had a faulty or doubtful diagnosis of syphilis made, when, in reality, they have been the victims of other venereal diseases such as gonorrhœa, condylomata accuminata, herpes, balanitis, etc.

Scheuer does not believe that syphilophobia depends on the toxicity of the virus alone, because there seems to be no relation between the degree of phobia and the severity of the infection and because syphilophobia can occur in non-syphilitic individuals.

Individual predisposition on the basis of a mental disturbance, either hereditary, or acquired through some weakening constitutional disease, through licentious living, through psychical disturbance, when one's resistance has been damaged by poison like alcohol, prepares the ground for the syphilophobia; it now needs but the particular cause for the phobia to develop.

The author thinks it probable that while in a measure the toxicity of the syphilitic virus may produce a pessimist while that of the tuberculous virus an optimist, it is, however, the moral tone which to a greater extent is responsible for syphilophobia. Should the time ever come when syphilis will be considered a "noble disease," the fear of syphilis will completely disappear.

(*Ibidem,* February, 1912, xix, No. 2).

Contribution to Our Knowledge of the Febrile Reaction Following Salvarsan Injections. O. Brückler, p. 127.

In the accidental use of old distilled (14 days) water in preparing the salvarsan solution for intravenous injection, Brückler obtained a post-injection rise of temperature, chills, etc., whereas former injections in these same patients, when freshly distilled sterile water was used, were afebrile. Brückler considers the rise of temperature in these cases to be due to the reaction of the body to toxic proteids present in old distilled water (Wechselmann). However, these phenomena were also obtained *where all precautions as to water were rigidly carried out.* In these cases the following features were observed.

(1) The temperature appeared later after the injection and was more gradual (and often unobserved by the patient himself) than in those cases where old distilled water was used.

(2) Fever always occurred after the first injection.

(3) The Jarisch-Herxheimer reaction accompanied the rise of temperature whenever the type of infection (stage) permitted.

By grouping his cases according to the stage, distribution and extent of the infection, the author concludes that:

(1) The intensity of the febrile reaction is in direct proportion to the extent of the syphilis and number of the spirochætæ—that is, most intense in a fresh secondary roseola while absent in early chancres, in latent syphilis and in tertiary cases with circumscribed ulcers.

(2) To the thoroughness of the treatment and the fact whether such is of recent date or long standing.

(3) To the form of syphilis, the greater and more solid the tissue reaction (encapsulation of spirochætæ rendering the penetration of the drug more difficult) the more moderate the rise of temperature, but also the longer the duration of same.

Brückler maintains that in this second group of cases the febrile reaction is due to the sudden and tremendous liberation of toxic substances from the destroyed spirochætæ.

Concerning the Idiopathic Genital Lymphangiectasis. Norbert Türk, p. 138.

After reviewing the literature on lymphangiectasis and citing the various theories as to its origin and pathogenesis, Türk relates a case, with histological findings, of a patient in the Nobl clinic (Vienna).

A 43-year-old male noticed on his penis, during a violent erection, a small, cone-shaped protuberance situated on the sulcus directly behind the deep edge of the glans. The nodule, which measured 2 centimetres long and ½ centimetre in height, was slightly uneven, covered with normal skin and did not disappear on pressure. The nodule could be shifted in position from below and on palpation could be felt two cord-like structures of a somewhat hard consistence, spool-like in form, lying closely together, being thickest in the middle, while tapering at both ends and finally disappearing under the integument: diagnosis, lymphangiectasis.

The growth was excised, sectioned vertically in the long axis of the vessels and cut in serial sections. The blood vessels were slightly hypertrophied, while the lymph vessels and capillaries presented a simple picture of lymphangiectasis. Some of the dilated lymph vessels occupied an entire microscopic field. No evidence whatsoever of an inflammatory infiltration with the formation of small round cells could be seen.

Türk explains this sudden lymphatic dilatation as follows: Through the violent erection an increased flow of blood to the arteries and a difficult flow from the veins produced a tremendous venous stasis. This stasis led to an increased exudate and the confined increase of lymph sought an outflow through the lymph capillaries and vessels. These being compressed through the excessive skin tension resulting from the erection, led to the formation of a true lymphangiectasis.

Results of Extensive Clinical Observations on the Treatment of Syphilis with Salvarsan. P. A. Pawlow, p. 149.

Pawlow has selected thirteen cases of syphilis from a large series to illustrate several points in the treatment of the disease with salvarsan. After carefully reviewing the detailed histories of these cases he concludes that:

1. Salvarsan is one of the most efficient therapeutic measures we possess. Under its influence many syphilitic manifestations, refractive to mercurial treatment, disappear very quickly.

2. The hope of a *sterilisans magna* through a single injection of the drug is not possible. Even the combination of salvarsan with mercury and the destruction of the primary lesions, offers little hope for a complete therapeutic sterilization. The absence of visible syphilitic manifestations in several cases, in the course of several months after the salvarsan injection does not speak for the success of an abortive therapy, especially when one considers the cases of so-called syphilis without exanthemata (Sellei).

3. Recurrences in salvarsan therapy occur as in mercurial treatment and they are not uncommon by any means—(24 recurrences in 63 cases—and at that they occurred soon after the salvarsan injection). The recurrences frequently assume the same pustular and ulcerating forms as in the earlier eruptions. In three of the cases cited, the recurring eruption was as diffuse as the first exanthem and in one case, it was much more extensive.

4. As observed in three cases, salvarsan, even in combination with mercury, was not sufficient to prevent the development of the most severe and irreparable destruction of the central nervous system. In such cases one can consider the action of salvarsan as merely a temporary restorative measure.

5. Three of the cases speak for the fact that salvarsan favors the development of syphilitic affections of the cranial nerves—especially the optic. Pawlow maintains that this condition is far more frequent since the introduction of salvarsan.

6. The action of salvarsan in regard to the disappearance of the various syphilides varies in different types and in the same types in different individuals, even with the same dose of the drug. The roseola does not seem to disappear any faster with an intravenous injection than with an intramuscular—the same being true with the papular exanthem. The cases of psoriasis plantaris syphilitica are especially refractive to salvarsan alone or even in combination with mercury. The cases of pustular and ulcerating syphilides (syphilis maligna) are markedly benefited by the new medicament. Moist papules of the genitalia and mucous plaques disappear very quickly under salvarsan. The size and localization of the gummata influence the duration of these lesions after an injection of the new drug. Those of the mucous surface heal quickest—those of the skin somewhat slower—while those of the bones take the longest for healing. Leucoderma syphiliticum is unaffected by salvarsan.

The primary lesion usually heals within nine days after the injection, depending on the size and duration of the lesion. Sometimes the use of salvarsan, even in combination with energetic mercurial treatment is insufficient to avert a recurrence of the indurated ulcer. Salvarsan seems to have no markedly favorable influence on syphilitic adenopathy. In some cases the glands become larger after

the injection, while in a few cases they become softer or even disappear entirely. Syphilitic alopecia seems to be beneficially influenced by salvarsan—probably due to the arsenical contents of the drug as concerns the physiology of the hair follicle.

(*Ibidem,* March, 1912, xix, No. 3).

Granuloma Pediculatum (So-called Human Botryomycosis). W. Heuck, p. 221.

This article is continued through Issues No. 3, 4 and 5. It will be abstracted when concluded.

Scleroderma with Changes in the Mucosa of the Mouth and Basedow-Addison Symptoms. C. Rasch, p. 244.

Rasch presents a detailed report of a 28-year old woman presenting: (1) scleroderma of the hands, forearms, face and anterior thorax; (2) pigmentation, partly diffuse, partly peri-follicular, light in some places, very dark in others; (3) small scars (areas of previous necroses) on finger; (4) atrophy of the thenar and hypothenar muscle groups; (5) atrophy of the tongue (papillæ absent and numerous bluish-red, depressed spots to be seen) and thinning of the mucosa of the lip; (6) unilateral thyroid tumor, no tremor or exophthalmos, but a rapid pulse, 88-120. The hair is normal and the eyes present no bitemporal defect of the visual fields. No demonstrable changes in the heart or lungs, even on fluoroscopic examination.

Rasch calls attention to the close relations existing between the various internal secretions, namely, those of the thyroid, hypophysis, adrenals and ovaries. The author cites Strumpell's theory of scleroderma—that that condition is a hypophysial change and that a comparable relation exists between acromegalie and scleroderma as between a true Basedow's disease and myxodœma. Rasch explains his case as follows: He believes the hypophysial involvement to be primary, producing secondarily a thyroidal hypertrophy, as is found experimentally on extirpating or after destruction of the hypophysis. The adrenal changes he thinks are further complications—in brief, an insufficiency of all the internal secretions—a polyglandular syndrome.

From this one case, because of the absence of demonstrable hypophysial symptoms, it is impossible to state definitely whether or not the hypophysis is involved, but indirectly, Rasch assumes this to be the case, because of the hypertrophy of the thyroid. The author laments the fact that the "hypophysin" of Merck and Parke, Davis & Co., is contraindicated in scleroderma because of its vascular constricting action and the production of a high blood pressure.

Concerning Radiodermatitis. F. Loeb, p. 250.

Loeb believes that by the careful use of the various measuring apparatuses at our disposal, one can, in the vast majority of cases, prevent the severe X-ray reactions and ulcerations. However, one meets constantly, cases in which harmful results occur which are dependent on the rather rare hypersensitiveness (idiosyncrasy) of the individual to X-rays, on inaccurate or wrong use or wrong interpretation of the measuring apparatus, or on a change in the quality of the rays produced while the tube is in use.

These harmful results are to be avoided in those dermatoses which can be influenced therapeutically in other ways which do not lead to scar formation. One can best do this either through a direct measuring of the rays or by H. E. Schmidt's procedure—dividing up the ⅓-½ erythema dose into several weeks.

Further, in the prevention of radiodermatitis in applying a full dose in one sitting, one should lessen the distance of the tube from the patient (because in so

doing one can maintain the vacuum of the tube more easily) and reduce the time of exposure accordingly. The shorter exposures mean that the tube will not be overheated and thereby become too soft.

Loeb finds that Bier's hot-air baking is a great aid in cases of abdominal radiodermatitis in that the intense itching, pain and even colic are greatly diminished.

(*Ibidem,* April, 1912, xix, No. 4).

Histological Changes of the Cutaneous Syphilides Through Salvarsan. W. Lier, p. 315.

Lier examined histologically a number of cases of syphilis to whom salvarsan had been administered in order to determine the influence of the drug on the cutaneous lesions. The majority of the patients were early cases. Some had received no previous treatment; others had been treated some time previously to the examination.

A lesion was excised just before the injection (intravenous) and soon after, within 36 hours, lesions of (as near as possible) the same characteristics were removed, hardened and fixed in alcohol, stained with hæmatoxylin-alum, eosin, polychrome methylene blue, differentiated with Unna's glycerine ether and counter stained with Pappenheim's pyronin-methyl green.

The characteristic changes occurred in the plasma cells—an œdematous swelling of the cells continuing on to a complete cell destruction. The changes were observed in their various gradations, and in detail the following features were noted: An enlargement of the light area about the nucleus, an accumulation of clumped protoplasmic substances at the cell poles, an extensive vacuolization of the cytoplasm presenting a perforated appearance so that the cell itself, irregularly formed, took on a "nibbled" appearance. Finally a complete cell destruction took place, whereby the bare nucleus was surrounded by numerous clumps consisting of nucleoli and minute particles of plasma substance. These clumps were again to be seen in the lumina of the lymph and blood vessels.

In two of the specimens, small areas of infiltration were seen; these were very rich in young connective-tissue cells, the nuclei of which were metachromatically altered, being stained red—probably an arsenical nuclear degeneration.

In regard to the histological examination of specimens presenting clinical evidence of a Herxheimer reaction, Lier could find nothing of any significance except œdema of the epidermis and dilatation and gorging of the vessels. The mast cells were just as numerous in the preparation before the injection as in those examined after the same (contrary to Krzysztalowicz).

La Clinique.

(May 3, 1912, No. 18).

Abstracted by Faxton E. Gardner, M.D.

The Use of Ziehl's Carbol-fuchsin as a Local Treatment in Some Cases of Pyoderma. Triboulet, p. 273.

The author has found Ziehl's solution very useful in the treatment of some cases of impetigo. The fears of carbolic poisoning are groundless.

(*Ibidem*, June 7, 1912, No. 23).

Treatment of Psoriasis by Injections of Enésol. Sabouraud, p. 361.

Sabouraud was led to this treatment in a purely empirical way by the remarkable improvement noted in the psoriasis of a patient who had had syphilis and who was treated (by another physician) with injections of enésol. In 12 cases he obtained 9 similar improvements; and the "red" cases, that is, those most uninfluenced by other treatments, seem to be those most benefited. It may be only a "lucky series," Sabouraud says, and he asks dermatologists to try to confirm or disprove his results. (A few painless injections of enésol would be much preferable to the disagreeable external applications, which, in the absence of anything better, we had heretofore to consider as the best known treatment for psoriasis).

(*Ibidem*, June 14, 1912, No. 24).

Prurigo-asthma. Sabouraud, p. 378.

Sabouraud discusses the various lesions and groups of lesions called "prurigo" and, incidentally, the internal disorders connected therewith. He calls attention to a small group where the skin lesions are associated with bronchial asthma and bronchitis. Such cases are more frequent in children. They resist all therapeutic efforts, are sometimes benefited by rest at the seashore and improve spontaneously toward the age of 12 and 13; but sometimes they persist in full-grown subjects.

(*Ibidem*, July 5, 1912, No. 27).

Treatment of Psoriasis by Injections of Enésol. Duc, p. 429.

Duc gives two observations of psoriasis cured by enésol injections: but they are open to criticism in that, in both, the Wassermann reaction was positive and in one, the infection was recent so that we do not know, in the absence of a microscopical examination, whether the writer had to deal with a genuine psoriasis or syphilitic lesions resembling psoriasis.

(*Ibidem*, August 2, 1912, No. 31).

A Few Remarks on Neosalvarsan. Emery, p. 481.

Emery concurs in all of Schreiber's ideas about neosalvarsan. He thinks neosalvarsan acts similarly to salvarsan, though somewhat slower. Personally, he prefers the method of smaller doses (0.45 gm.) repeated, to that of massive doses as advocated by the German authors.

Gazette des hôpitaux

(May 7, 1912, No. 53).

Abstracted by Faxton E. Gardner, M.D.

Treatment of Leg Ulcers by Local Applications of Salvarsan. Lévy-Bing and Dubreux, p. 785.

Applications of 10% salvarsan ointment (in vaseline) shortens considerably the length of the healing period. The pure salvarsan powder is too irritating. Four cases were treated.

(*Ibidem*, June 6, 1912, No. 64).

Erythema Nodosum and Syphilis. Gueit, p. 962.

Relation of a case in which the erythema developed very shortly after the

breaking out of the secondaries and which tends to support the theory of the syphilitic nature of some cases of erythema nodosum.

(*Ibidem*, June 11, 1912, No. 66).

Neosalvarsan. Lévy-Bing and Duroeux, p. 987.

Neosalvarsan does not coagulate the blood albumins and it is not precipitated by or in the blood. It causes less reaction than salvarsan and has a similar action, though maybe slightly slower.

(*Ibidem*, June 18, 1912, No. 69).

Erythema Nodosum and Tuberculosis. Alamartine, p. 1027.

Following the line of thought of Poncet, who sees in many affections the earmarks of "inflammatory tuberculosis," Alamartine asserts that there is a tuberculous variety of erythema nodosum, whose existence is established by clinical, histopathological and experimental facts, by the sero-reaction and by intradermal reactions.

La presse médicale.

(May 15, 1912, No. 40).

Abstracted by Faxton E. Gardner, M.D.

Lecture on the Treatment of Syphilis. Gaucher, p. 425.

Professor Gaucher remains faithful to the mercury-iodide treatment of syphilis and deems salvarsan a dangerous and untrustworthy remedy. Its sole indication is based on its remarkable cicatrizing power on lesions refractory to mercury.

(*Ibidem*, July 3, 1912, No. 54).

Relations Between Syphilitic Mediastinitis and Aortic Aneurysm. Sergent, p. 569.

Repeated radioscopic or radiographic examinations are necessary. Mediastinitis often precedes the development of aneurysm. The differential diagnosis between both is very difficult. Many an incipient aneurysm is hidden behind the diffuse sclero-gummous infiltration.

(*Ibidem*, July 27, 1912, No. 61).

Cytology and Serology of Leprosy. Jeanselme, p. 629.

There is no fixed hæmatologic formula in leprosy. In 8 patients, Jeanselme found that: Hypochromia always exists, sometimes proportional to the decrease in the number of red corpuscles, but not always; in some cases the number of red corpuscles may be normal, or but slightly below normal, while the hæmoglobin is low. Sometimes, there is a slight transitory leucocytosis. In leprosy of the nervous system, the large mononuclears exist in considerable numbers: this is not found in the tubercular type, in which mononuclears are normal as to number. There is no eosinophilia. There is no spinal leucocytosis in leprosy, a fact in striking contrast with what happens in syphilis.

Jeanselme and Joltrain have studied the complement fixation reaction in 11 lepers, out of which 2 sera had to be eliminated, one being hæmolytic and the other effecting fixation spontaneously (a peculiarity found in 26 % of all leprous sera); 5 cases were positive: *those were the clinically active cases.* In 8 sera of *non-leprous* syphilitics, *two* gave a positive reaction with the leprous antigen. One positive reaction was obtained with the serum of a healthy subject.

Annales des maladies vénériennes.

(July, 1912).

Abstracted by Faxton E. Gardner, M.D.

New Accidents Caused by "606." Gaucher, p. 482.

An impassioned plea against salvarsan: neurorecurrences and two cases of death.

A Case of Syphilitic Chancre of the Cervix in a Prolapsed Uterus. Ozenne and Duroeux, p. 492.

(*Ibidem*, August, 1912).

On the Cholesterin Content of the Sera of Syphilitics. Gaucher, Paris and Desmoulière, p. 561.

There is no evidence of parallel variations between the cholesterin content of the serum and the results of the Wassermann reaction. The influence of antisyphilic treatment on cholesterinæmia is not evident. In recent syphilis, the variations of cholesterin in the blood are but slight and variable. In old cases, on the contrary, hypercholesterinæmia, as a rule, is observed.

Whether hypercholesterinæmia is a reaction showing the progressive immunization of the body, or, on the contrary, is an important factor in the development of arteriosclerosis and atheroma, is not of much importance here because both hypotheses, as regards syphilis, are acceptable.

Revista clinica de Madrid.

(July 1, 1912, viii, No. 1).

Abstracted by A. Ravogli, M.D.

First Clinical Impressions of Neosalvarsan. Juan de Azua, p. 1.

The author enters into a detailed explanation of the chemistry of neosalvarsan. He then carefully explains the difference in dosage between salvarsan and neosalvarsan and gives the technique of administration of the latter.

The author prefers the intravenous method, but employs intramuscular injections when it is impossible to give an infusion directly into a vein. For intramuscular injections he gives 1.5 gm. of neosalvarsan dissolved in 20 gm. of sterile water. A 5% solution of novacaine is employed to diminish the pain. The injection is made in the gluteal region. For intravenous infusions the water must be freshly distilled and sterilized. While sodium chloride is not necessary, the author prefers to employ it in the strength of 4 parts to 1,000 in order to overcome the possible hæmolytic effect of the water. Solutions of neosalvarsan are hypotonic, but the small amount given at one time, when combined with the large amount of blood in the system, will not produce hæmolysis. Schreiber and Stühmer dissolve 60 centigrams of neosalvarsan in 200 gm. of water, while the author employs 80 gm. of water for the same amount of the new drug. The dose is regulated in accordance with the weight of the individual which is estimated in kilograms. The average adult receives 1.6 gm. of neosalvarsan divided into 4 doses, covering a period of 8 days. The dose is also modified in different types of syphilis: in cerebral syphilis, for instance, it is smaller than in an individual of the same weight and sex, who is suffering with cutaneous lesions only. (*To be concluded*).

(*Ibidem*, July 15, 1912, viii, No. 14).

First Clinical Impressions of Neosalvarsan (Concluded). Juan de Azua, p. 41.

The patients treated were all hospital cases where careful observations could be made. The drug was given to cases of chancre of but a few days' duration to estimate the abortive effect, to malignant syphilis and to a case of the pigmented, hæmorrhagic sarcoma of Kaposi.

In one case of chancre, after having destroyed the lesion with hot air, the injection of neosalvarsan was followed in 14 days by a positive Wassermann. The patient was then given 4 infusions of the drug with a total of 2.80 gm. in 11 days. This was followed by repeated injections of gray oil. At the end of 80 days the Wassermann was negative. In one case of malignant syphilis, 4.95 gm. of neosalvarsan was divided into 5 infusions. This was followed by the disappearance of all symptoms and a negative Wassermann. Tertiary syphilis usually responded to 4 infusions over a period of 8 days with a total of 2.30 gm. of the drug. In the case of sarcoma 4 injections failed to have any effect.

The author has found that neosalvarsan, when injected into the subcutaneous tissues, will produce an inflammation, but it is not as irritating as salvarsan. In 41 intravenous injections of the new drug he has failed to note deleterious results in the vein or anywhere in the system.

General reactions following the intravenous infusions of neosalvarsan can be attributed, for the most part, to the use of stale distilled water or incomplete sterilization. Vomiting and diarrhœa are due, at times, to the action of the drug itself. Fever and the occasional exanthematous eruptions are also at times due to the toxic action of the preparation. Not only is the arsenic likely to produce untoward symptoms, but the possibility of toxines from dead spirochætæ and anaphylaxis must be considered. With the exception of headache, the author has never experienced symptoms originating in the nervous system and following an injection of neosalvarsan.

Syphilitic Reinfection in a Patient Treated with Salvarsan. J. S. Covisa and J. Nonell, p. 65.

The authors call attention to the former rarity of syphilitic reinfection. This fact, they think, is due to the probability that with the older methods of treatment the disease was held under control rather than cured. They point out, that since the advent of the combined salvarsan-mercurial treatment of the disease, the occurrence of reinfection is far more frequent, which shows that the new technique not only actually effects a cure, but that it produces the possibility of a truly abortive treatment.

The authors report the case of a young man suffering with an initial lesion and a general adenopathy. The chancre was destroyed with hot air and an intramuscular injection of salvarsan was given. Twenty days later, the patient was apparently well, but the Wassermann reaction was positive. An intravenous injection of salvarsan was then administered. One year later, he returned and presented an ulcer of the prepuce, which had an incubation period of 4 weeks and which was hard, eroded and from a clinical standpoint was a typical initial lesion of syphilis. This was followed by adenopathy, a roseola and a positive Wassermann.

As a result of the study of this case and a knowledge of the literature, the authors are not in accord with the theories of Ricord, Mauriac and Fournier regarding late recurring chancres, nor with the endogenous-infection theory of Thalman. They maintain, with Rudolph Müller, that true syphilitic reinfection is possible and can be established by the following facts: 1. Ascertained exis-

tence of former syphilis. 2. Clinical characters of the new lesion. 3. Production of typical adenopathy. 4. Secondary manifestations at the usual time. The behavior of the Wassermann reaction is an additional proof.

The abortive treatment of syphilis consists of destroying the chancre as soon as diagnosed bacteriologically and the immediate intravenous infusion of salvarsan, which is to be followed by intramuscular injections of calomel or gray oil.

BOOK REVIEW.

The Treatment of Diseases of the Skin. By W. Knowsley Sibley, M.D., M.A., B.C., Camb.; M.R.C.P., Lond.; M.R.C.S., Eng. Physician to St. John's Hospital for Diseases of the Skin, London. *Longmans Green & Co.,* New York, *Edward Arnold,* London, 1912.

This little volume of 275 pages is intended to serve as a convenient handbook for the dermatologist, as well as for the general practitioner and student and deals exclusively with the treatment of the ordinary and a few of the rarer forms of cutaneous lesions. The author has succeeded in making the work thoroughly modern by laying special stress upon the various and frequently useful, non-medicinal adjuvants to the modern dermatologist's armamentarium: X-rays, cataphoresis, high frequency currents, solid carbon dioxide, hyperæmia, vaccines, etc. The diseases are arranged in alphabetical order, the treatment of each disorder being discussed in concise, easily understandable language, giving the reader a fair knowledge of the various procedures employed in treatment. Under the subject of syphilis a paragraph is devoted to salvarsan and, as a final proof of up-to-dateness, several sentences are bestowed upon neosalvarsan. In speaking of the treatment of lupus vulgaris, the author deals at some length with his gratifying results from the use of the solid carbon dioxide; while the chapter on the treatment of lupus erythematosus, strange to say, contains no reference whatever to the excellent results so frequently obtained by the freezing method.

A number of useful formulas are appended.

F. W.

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EDITORIAL.

THE "BEAUTY DOCTOR."

THE rôle the "Beauty Doctor" is playing in our modern life is a very decided one. There can be no doubt of this statement if one keeps one's eyes open to the multitudinous advertisements displayed in newspapers, periodicals, street cars and on buildings in certain parts of our cities.

One may say that there are three types of these commercial practitioners who are adopting the name of "dermatologists" so universally that the educated, licensed physician really hesitates to apply the term to his honored specialty. First, the really big corporations, represented by "The .....Institute" with its large offices in Boston, Chicago and perhaps elsewhere; and "The .....Treatment of the Hair" with its boasted 126 "parlors" in the United States. Second, the individual who, to the best of his light, works conscientiously to earn his living; and third, the charlatan, the out and out quack, with his worthless or harmful drugs and methods.

These people concern themselves with actual disease and devote their attention principally to cutaneous and surgical defects which the world at large can see. Thus, hypertrichosis, cancer, nævi, acne vulgaris, seborrhœa, alopecia, cicatrices, wrinkles and deformed noses are their especial field of exploitation. In their endeavors to cure these diseases and conditions, the better class of these people advertise that they employ the electric needle, destructive pastes, solid carbon dioxide, the knife, many drugs and the injection of paraffin.

Since the "Beauty Doctor" has gained such an important hold on the community let us physicians pause a moment and inquire into the causes of his existence.

Perhaps the principal reason is the large monetary returns rendered possible by the power of advertising. By these glaring, striking, insistent, ubiquitous notices the "dermatologist" stamps upon the public mind the conspicuousness of its "facial blemishes," the easy methods by which they may be corrected and finally the exact spot where relief from them may be obtained. A second cause is the non-success of previous treatment from a regular physician. Patients with skin diseases are peculiarly insistent on rapid and constant cures from their medical attendants and if these usually conscientious men are too slow in their results, or are unsuccessful in the end, the energetic and rather exacting, but withal credulous American mind, drives the patient where he is assured failure does not lie. A third and not insignificant cause is the matter of cost.

From a broad humanitarian point of view is the existence of the "Beauty Doctor" justified? In the first place he is, to all intents and purposes, a physician practicing without a license—consequently a breaker of the laws. Secondly, he is, from a medical point of view, an uneducated person, although in the large advertising establishments there are often licensed medical men to give "tone" to the business. Thirdly, the character of the work done, even in the best "Institutes," is not above reproach; witness the frequent, severe and usually unnecessary scarring produced by electric needle work in hypertrichosis and the commonly recorded but totally unnecessary pain described by ex-patients. Or again, the well known, irretrievable and pitiable deformities following the criminally ignorant injection of unsuitable paraffin for the correction of nasal deformities or for the eradication of wrinkles or post-variolous cicatrices. Or again the severe, though usually temporary, accidents incident to ignorant methods of peeling the face for one reason or another. Or again the mischief, sometimes very severe, caused by the uneducated use of hair dyes, so frequently leading to trials in the law courts. Fourth, the question of expense. The price of each visit or the cost of the initial "consultation" may be low, although "cash down" fees of $100.00 for peeling the face of a shop-girl are not unknown! But the intricate contracts often signed by unwary victims, the frequent, peculiar persistency of the "Beauty Doctor" in following up a credulous or a timid or thoroughly frightened young man or woman, and the excessive cost of the medicines prescribed are the living dangers in committing oneself to these irregular practitioners of medicine.

If, on account of the above reasons, we licensed physicians can-

not approve the ways or even the existence of the "Beauty Doctor," is there nothing which we, in our turn, can do to lend a further helping hand to the public, which, through ignorance or disappointment, seeks these irregular sources of relief?

Our first duty, of course, is to perfect our knowledge and skill to an ever-increasing extent. This, naturally, is an evolutionary process, but one which can surely be hastened if our teachers of dermatology will point out to their students graphically and emphatically the special, pressing problems as yet unsolved and ask those to whom such work appeals to devote at least a part of their lives to the solution of these very urgently desired questions. More research work in dermatological fields is an imperative need!

And lastly, our second duty is to educate the public through popular lectures and through popular articles in many magazines as to the exact significance of cutaneous anomalies and the precise method to be adopted for their eradication. There is a distinct ignorance on the part of many rather isolated men and women as to whom to consult upon such questions and the inevitable result in many cases is that these really sensible people drift into the hands of the "Beauty Doctor" because he has told them to do so.

Charles J. White.

TEMPORARY ERYTHEMA EVOKED BY THE X-RAY.

WITH the advent of a radiotherapeutic technique that would allow of the administration of massive doses of the X-ray at one sitting, it was noticed that not infrequently a temporary erythema would develop a few hours after the treatment. This efflorescence is always noticed within eight hours after the application of the ray and is evanescent in character, disappearing in from twelve to fifty-six hours, depending upon the degree of reaction. At the height of the reaction there may be a slight swelling of the affected part and a sensation of heat. It is not usual for the erythema to be followed by desquamation.

This temporary erythema has been observed, also, after the fractional-dose method of applying the ray, when the treatments are vigorous and the tube is placed within a short distance of the skin. It is a very common occurrence to note this reaction when the tube is placed in direct contact with the skin.

The cause and significance of this phenomenon are not well understood. When the tube is allowed to remain in contact with the skin during the exposure it is possible that the reaction constitutes a thermic burn. This hypothesis is made more probable by the fact that the erythema produced by having the tube in contact with the skin and the reaction following a treatment with the tube at a distance from the skin exhibit dissimilar characteristics. In the former instance, the erythema may follow a very mild application and is probably due to the overheating of a small tube. Peeling of the epidermis follows the reaction and there is no subsequent or secondary erythema. It must be remarked, however, that a true radiodermatitis may be produced by this method of administering the X-ray. In cases of primary erythema produced with the wall of the tube placed at a distance of several inches from the skin, heat is not an ætiological factor, the skin rarely desquamates and the *primary* reaction is usually followed by a *secondary* erythema, which develops in from ten to seventeen days. Whether the severity of the secondary reaction can be determined by the intensity of the primary erythema has not as yet been determined; probably not, because a marked secondary reaction is not always preceded by a primary erythema, and a pronounced initial reaction may be followed by a mild subsequent erythema.

The cause of the primary erythema may be the hypersusceptibility of the patient, the application of irritating chemicals before the X-ray was administered or to static electricity. The last two factors offer the best opportunity for investigation. In any event, no apprehension need be felt when a temporary erythema is observed after a single-dose X-ray treatment, unless one is dealing with tinea tonsurans.

George M. MacKee, M.D.

THE DRY TREATMENT OF CERTAIN MOIST DERMATOSES.*

By Charles J. White, M.D., Boston.

Assistant Professor of Dermatology in Harvard University.

THE therapeutic ideas embodied in this paper are not wholly original, as their chief source of inspiration was derived from Dr. M. F. Engman, of St. Louis, to whom I once upon a time appealed for help in the distressing case of one of the patients whose history forms a part of this paper.

Dr. Engman advised the liberal use of corn-starch powder and the administration of quinine forced to its uttermost limits. In the treatment of some of the cases his advice was followed literally—in others the internal medication was dropped and the patients improved quite as rapidly without the unpleasant symptoms often associated with the forced ingestion of quinine.

Details of the Treatment.

During the acute stages of the disease the patient is put to bed and kept there until all or practically all moist surfaces have ceased to appear. If there are many lesions upon the dorsal surface of the body an air mattress is supplied and kept well inflated. All natural functions are carried on in the reclining position and the patient eats, sleeps, defecates, urinates and rests in this recumbent position. It is well to insist on this precaution for it has seemed at times that a recrudescence of the disease has followed any relaxation of this rule.

The food is restricted to "soft solids" and the abundant ingestion of water; the air of the apartment is kept as fresh as possible; bathing is not allowed; sleep is encouraged; medicines are administered only when special general symptoms demand them; and the pith of the whole system lies in the external use of bland, antiseptic, absorbent, inexpensive powder pushed to its extreme limit. All these qualities are contained in borated talc and this is the material which has been employed in the present instance.

The application of the powder is made through a sifter and

*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

every lesion on the body is dredged with this powder as often as any moisture shows itself. If the disease affects the scalp the hair should be sacrificed. The patient should lie naked in the bed and the sheet and blankets should be supported on a frame so that nothing should touch his body but the powder which should lie in sufficient depth below, around and above him to cause immediate absorption of any supervening moisture. No two surfaces should touch each other; the arms should be kept away from the body, the fingers should be abducted, the legs should be stretched apart, the penis should be separate from the scrotum and the scrotum from the thighs by much powder. I am satisfied that the method is being properly applied when I see the sick room literally covered with a layer of the powder. Such a procedure really demands a room with a bare floor and walls and one free of unnecessary furniture.

If the air is very dry the patient suffers from this abundant, omnipresent dust, but the aural, nasal, oral and optic passages can be made comfortable respectively by appropriate plugs of absorbent cotton, demulcent gargles and pastilles and by eye washes.

As a rule the moist places remain clear and simply dry up, but occasionally a great crust heaps up and pus collects beneath it. This overlying mantle must be removed at once and the drying process instituted again *in situ*. If the purulent process develops a second time it is wise to apply an antiseptic, drying wash (and black wash has proved very satisfactory) until the exuberant pus has been conquered. Then return to the powder treatment, for this is the method we are advocating in its entirety.

My conception of the theory of this mode of treatment is that it inhibits bacterial growth, for it is a trite saying that such life requires heat and moisture. If each and all of the above details are scrupulously insisted upon and faithfully carried out, particularly in the way of the naked body and the abducted limbs, there is very little opportunity for heat or moisture to develop and pathogenic organisms cannot arise to cause or to perpetuate the disease, or, at any rate, its complications.

Even if these measures fail to cure the affection they at least procure for the patient comparative comfort, for we clinicians all know the patients' increasing dread and even horror of the impending tearing off of old dressings or the getting out of bed for the bath, or the turning over in bed for a new application, when his horny layer is lost over large surfaces and the raw, sticky, albuminous

surface has glued the bed clothes or the bandages to the wound. Thus I believe that the old sufferings from large burns, extensive cases of pemphigus and moist examples of dermatitis exfoliativa can be relegated to the background and I know that the former, hideous, last days of these diseases with their foul bed sores and their nauseating odors are no longer necessary.

And now allow me to record in detail the cases on which I have founded my firm belief in the efficacy of this dry treatment. The examples are naturally not numerous (ten in all), for no one of us meets with many of these rare diseases inside of twenty months. But few of these cases have had the full benefit of all the details above described for various reasons—one of which is the fact that the complete method has been of comparatively slow evolution.

Case Reports.

Case 1. W. C. H., aet 24, bank clerk, entered the Massachusetts General Hospital with syphilis and dermatitis exfoliativa on August 26, 1910. His primary lesion developed in the preceding March, followed in May by various specific symptoms for which he was given for six weeks brown capsules and "mercurettes." At the end of this period there appeared general malaise, sore throat and a swollen uvula, and a few weeks later vesicles between the fingers followed by other vesicular and bullous lesions on the forehead, nose and elsewhere.

At entrance there was almost universal desquamation of large, rather thick scales, free at the edge, adherent at the centre, together with considerable oozing on the face, arms and legs, while on the ankles one could find the remains of bullæ. The skin itched and was of a dusky, erythematous hue. These severe symptoms made the patient very uncomfortable and he was constantly picking and scratching his skin.

Sept. 6th. Mental condition became hazy and the patient was irritable and restless. Sept. 12th. Skin clearing up somewhat under sulphur ointment. Sept. 18th. Oozing has stopped and scales are smaller. Color of skin is less dusky and the integument is drier and firmer. Sept 30th. Recrudescence of disease. The scales have become larger and thicker and the patient more irritable. The treatment instituted consisted of starch baths, zinc oxide paste, carbolized zinc wash, sodium phosphate, Fowler's solution, mild sulphur ointment and quinine in big doses. Oct. 5th. (Patient had now passed into Dr. Towle's care.) Complains of deafness and constantly picks and rubs his skin. Oct. 11th. The skin is now dry and the desquamation finer than ever before, while the patient is decidedly better and more cheerful. Oct. 12th. A moist oozing area has developed over the sacrum and large flakes, accompanied by moisture, are present below the knees. The trunk, however, is dry and covered with fine scales.

The patient's condition steadily improved and he left the hospital on Oct. 31st. to enter a private institution to complete his cure. Under Dr. Towle's care the treatment consisted of black wash, hot boric solutions, olive oil, cocoa butter and calcium lactate.

Two or three days later I was called to this private hospital to see the patient.

He was in a most pitiable condition. He had received absolutely no treatment as the attendant nurse had been afraid to go near him. He lay in a bed full of desquamated scales, his body was covered with large flakes attached at their centres, his skin was dusky red in color and the stench arising from this neglected man was absolutely intolerable.

The man was necessarily and immediately sent to his home and the powder and quinine treatment started and continued until the man was well. He began to improve at once but the cure required nearly six months. There were no serious setbacks to be sure, but the technique of the treatment was very inadequate as the patient lived a long distance from Boston and could be seen but at infrequent intervals. The sacral region and the lower legs were the stumbling blocks and required the long period of treatment, but the rest of the body was practically well about three months after the general condition had made us all look upon the case as so desperate. The man has been seen from time to time since his restoration to health. Twice the disease started to recur, but these attacks have been nipped in the bud by the use of powder. They were each due to the use of mercury, once following a few injections of the bichloride and once to the ingestion of the protiodide and as the original attack followed the inunction of the drug, we have here a syphilitic utterly intolerant of the administration of mercury in any of its usual forms.

Summary. Cure of a most rebellious, and at one time, fatal looking outbreak of dermatitis exfoliativa.

Case 2. F. A., aet. 28, a leather worker, entered the service of Dr. J. T. Bowen at the Massachusetts General Hospital December 30, 1910, with the diagnosis of syphilis and dermatitis exfoliativa. Twelve weeks before entrance to the hospital the man exhibited a penile sore which required nine weeks to heal. For ten weeks "little yellow pills" had been ingested. Two weeks before admission to our wards a rash broke out and a general exfoliation developed, first on his head, then on his face, afterwards, in the space of eight days, travelling down his body to his feet.

When first seen the general physical condition was poor, the eyes were discharging and the eyelids were stiff; there was a mucous patch on the lip; the whole skin was erythematous, desquamating and moist, emitting a foul odor; the scalp was moist and the hair matted; the fingers were stiff and flexed; the temperature was 100.5° F.

Jan. 1st. The patient passed into my hands and the powder treatment began with the addition of thyroid extract internally. Jan. 5th. Scalp and ears oozing; pillow constantly wet; hair was clipped. Jan. 10th. Marked improvement; skin nearly dry. No further discharge from eyes and the eyelids are less stiff. Jan. 16th. Gaining rapidly. Eyes are well; skin practically dry. Jan. 19th. Hydrochlorate of quinine ordered, thyroid extract stopped. Jan. 30th. Skin shows general fine desquamation and slight discoloration and pigmentation. The patient is hungry all the time. Feb. 13th. The man was discharged well.

Summary. Cure of an acute eruption of dermatitis exfoliativa in six weeks.

Case 3. On January 23, 1911, I was called to Bangor, Maine, to see a lady of 75 who was suffering with dermatitis exfoliativa of the most severe type with moisture, marked fœtor and very large scales. Unfortunately the patient died from pneumonia within a few days so that any judgment as to the effect of the powder treatment is impossible.

Case 4. W. F., aet. 36, a driver, developed in November, 1909, a scaly eruption on the back of his hands which, after several months, gradually spread

over the entire body, itching and burning and desquamating large amounts of scales. Dr. J. A. Shatswell, of Beverly, Massachusetts, took charge of the patient in November, 1910 (and in describing this case I am quoting literally from his letter to me received two weeks ago), and "found the entire body, face and scalp covered with fine white scales and with serum oozing out wherever the larger scales were removed. The hands were badly cracked. The man was in good bodily health and weighed 215 pounds. For treatment he received Fowler's solution to the limit of toleration and all the ointments imaginable. In January, 1911, the patient was in fearful shape; in bed with a temperature of 102° F.; urine scanty, bowels constipated; sleeping nearly all the time; and anxious to die."

"Two weeks later, however, a great improvement took place after the use of an ointment containing equal parts of bismuth and calomel, in fact the man went to work."

"On March 1st the disease reappeared and the man was found in bed, a mass of scales, quarts of which were removed every day. The temperature often rose to 105° F., there was delirium, scanty urine, a pulse of 100-110 and somnolence. Whole casts of fingers, toes and heels came off about once in three weeks. The bismuth and calomel ointment was tried but without success. The weight fell from 210 lbs. to 130 lbs. and the man continued in this way until the end of May."

Dr. Shatswell then called me in consultation. The man appeared in rather desperate straits. He was shrunken, old-looking, nearly bald, with deeply fissured nails and with darkly pigmented, universally scaling skin. The powder and quinine treatment was explained and advised.

"The patient became comfortable almost from the first day. The treatment was continued without let-up for four months. The improvement started from the day the powder was used and the man gained steadily in comfort, looks and weight, returned to work in October and has not lost a day's work since. His hair has returned, his skin is normal and he has regained nearly his whole weight."

"Having never seen so severe a case of dermatitis exfoliativa it seems very remarkable that he should derive so much benefit from so simple a treatment."

Summary. Permanent cure in four months of a virulent attack of dermatitis exfoliativa of eighteen months' duration.

Case 5. K. F. D., aet. 27, a housewife, entered the service of Dr. H. P. Towle at the Massachusetts General Hospital on June 14, 1911, with a diagnosis of syphilis and dermatitis exfoliativa.

On March 16, 1911, vaginal sores appeared. April 16th. Slight rash on body, which disappeared in a few days. May 15th. Present eruption broke out and soon covered the whole body. Deep ulcers on palate and tonsils. Mucous plaque on tongue. Scalp covered with greasy scales. June 17th. Desquamation began on the face and the forehead became œdematous. June 18th. Face more swollen and scalp oozing and foul-smelling. June 25th. Most of body desquamating.

On July 1st the patient passed into my care and the powder and quinine treatment was commenced. July 3rd. Woman not so well and temperature tends to rise. July 7th. Desquamation continues, especially on the face, but the anterior surfaces of the thighs are nearly free from scales. July 8th. Abscess behind ear opened and a large amount of pus drained out. July 10th. Body and legs almost free from scales but patient is dull and apathetic. July 13th. Slow improvement continues. July 21st. Patient grows stronger each

day but considerable desquamation on face and legs persists. July 24th. Still considerable peeling on face and there are thick scales on the palms and soles.

Up to this time the patient has been a very sick woman and on the "dangerous list" most of the time. There has been a see-saw temperature with a maximum of 105° F. and a maximum pulse of 150. The blood count has been remarkable and is worth recording.

	Leucocytes.	Polymorph.	Lymphocytes.	Eosinophiles.
June 17th	15600	31	7	62
June 21st		38	10	52
July 9th		31	31	38
July 25th	14600	68	28	4

Aug. 4th. Patient walking about every day. Hair falling rapidly. Skin practically normal. Aug. 13th. Complete dermatological recovery.

Summary. Restoration to health in 35 days of an intense and at one time rather fatal-looking case of dermatitis exfoliativa.

Case 6. E. T. S., aet. 41, foreman, was seen in Winthrop on June 24, 1911, in consultation with Dr. George C. Shattuck; diagnosis, pemphigus.

The man related that two weeks previously he had driven over the road and was much poisoned by brown-tail moth caterpillars. The eruption appeared the following day and since then had spread in area until the sides of the nose, chin, inside of mouth, neck, axillæ, wrists and groins were involved. At my first examination the oral cavity was well, the wrist lesions had dried up, but the area of erythema about these previous lesions had enlarged. Scattered over the body, as described, were found closely aggregated or coalesced bullæ, many of which were ovals one inch in diameter. On the arms and legs were pinhead vesicles with no surrounding erythema. The temperature was 100.5° F., but had reached 102° F. The internal organs and the urine were normal and there was no eosinophilia present. Smears from the bullæ were negative.

The man was transferred to the Massachusetts General Hospital on June 28th and came under my care on July 1st. At the time of entrance sleep was much disturbed by burning pain. There were large and small bullæ, crusts and purulent areas on the scalp, face, neck, axillæ, chest, back, flanks, arms, groins and feet. The man was distinctly sick and was put on the "dangerous list." The patient was given the powder treatment plus the local use of carbolized zinc wash and the internal administration of arsenic and strychnine.

July 2nd. Patient is brighter and more comfortable. A blood count showed 10,400 leucocytes of which 40% were eosinophiles. July 4th. Marked improvement. Few new bullæ from day to day. July 6th. Axillæ, neck and portion of groin nearly healed. July 7th. Patient got out of bed last night and broke the dry and stiff skin in many places. Not so well to-day. July 9th. Many new bullæ, especially on flanks. Patient restless and irrational. July 13th. Condition slowly improves and about 10 to 20 new bullæ appear every day. July 17th. Only a few blebs now developing. The man sits up for a few hours every day. July 21st. Patient grows stronger. No new lesions for two days. July 24th. Not so well; no new bullæ, but skin is easily injured and the mind wanders. Dr. H. C. Baldwin, neurologist on duty, saw the patient in consultation and found an early condition of general paralysis. July 28th. Man stronger and feels perfectly well, but mental aberration continues. July 29th. Completely out of his head, but the skin condition is cured and at the family's request the man was discharged to his home.

This was a very serious and intense example of pemphigus, but, despite this fact, the cutaneous condition was practically restored to the normal after about four weeks of treatment.

I understand from a recent conversation with Dr. Shattuck that since the patient's departure from the hospital there have been a few trivial recurrences of bullæ.

Summary. An intense, acute, florid pemphigus checked in one month.

Case 7. C. H. L., aet. 88, clergyman, was seen in consultation with Dr. A. N. Makechnie in Somerville, August 9, 1911. Diagnosis, dermatitis exfoliativa.

The disease began three months previously on the scrotum and penis, then appeared on the hands and afterwards more or less generally. At times the skin had peeled off in large flakes. The itching had been so intense that sleep had been almost impossible for weeks. The treatment had consisted of inunctions of sulphur and resorcin ointments and cod liver oil.

At my examination I found an old gentleman, very feeble, incontinent of urine, more or less calm and torpid, but complaining bitterly of pruritus and inability to sleep. The skin of the hands, forearms and genitals was tough, red and leathery and there was an entire absence of horny layer on the dorsa of the feet. Simple food was ordered and the powder treatment recommended.

On August 7th, Dr. Makechnie wrote: "I can report very favorably. The patient is much more comfortable and he sleeps better. The skin is much improved and many places look almost well."

Two weeks ago (May, 1912) I saw Dr. Makechnie who said that "the old gentleman did wonderfully well and made very rapid progress. No new places developed and the old areas healed better than under any previous treatment. Some time afterwards the patient came under another physician's care who used olive oil. The man is alive today and with the exception of a little scaling on the legs and scrotum the skin is practically normal."

Summary. An old gentleman of 88, practically cured of a long-standing dermatitis exfoliativa in a few weeks.

Case 8. A. R., aet. 70, entered my service at the Massachusetts General Hospital on September 5, 1911, with the diagnosis of dermatitis herpetiformis. The patient had suffered from this disease off and on for five months and was presented before this Association in Boston last May (1911).

At his re-entrance in September the skin of the entire body was distinctly hyperæmic and showed many discrete and confluent areas of mild pigmentation, the remains of previous vesicular lesions. Around the neck, in the axillæ, on the flexor surfaces of the arms and thighs and about the genitalia there were separate and grouped pinhead to pea-sized vesicles upon an erythematous base. Elsewhere there were occasional vesicles, some covered with crusts. A vegetable diet and the powder treatment were prescribed. Sept. 7th. Patient much better, vesicles drying up and itching less pronounced. Blood examination negative. Sept. 11th. The man was very comfortable; all vesicles were dry; the erythema was fading rapidly; and no new lesions had appeared. Sept. 19th. As the disease had apparently ceased the patient was discharged at his own request.

Summary. Whether the disease was permanently cured in this unusual period of two weeks is uncertain. At any rate we have not seen the man at the outpatient clinic since and, as he was a constant visitor during previous outbreaks of his malady, it is a fairly safe hazard to believe that he is probably well.

Case 9. W. B., aet. 87, entered the Massachusetts General Hospital on November 2, 1911, with the diagnosis of pemphigus.

The disease began with itching and redness of the arms two weeks previously and at his entrance to the Skin Ward, lesions were present and scattered over the whole body, accompanied by intense and increasing pruritus so that sleep was much interrupted. The forearms showed a generalized, erythematous, infiltrated and thickened condition of the skin with a tendency toward fissuring and with occasional points of oozing and crusting. On the back, upper chest and legs, were many similar plaques, while on the legs there was less crusting but a far more intense degree of erythema. Elsewhere over the body were scattered vesicles and bullæ up to the size of a silver dollar. The treatment consisted of starch baths, carbolized zinc wash, zinc pastes and aspirin with guaiacol for the right arm. Nov. 4th. The intense itching and redness were relieved. Nov. 10th. As the redness of the "eczema" subsided discrete and confluent macules and papules appeared on the abdomen. Some of these lesions were as large as a silver quarter, some were annular in shape with a pale centre and red periphery. An increasing number of bullæ had broken out over the entire body. The patient felt well. Nov. 14th. A blood count showed 15,000 leucocytes. The annular lesions had flattened out but more bullæ were appearing every day, especially on the legs, where some were nearly an inch in diameter. Nov. 16th. Bullæ were decreasing in numbers. Nov. 20th. New bullæ, in crops of a dozen or so, were appearing, but the general condition remained satisfactory. Nov. 27th New bullæ each day and a red infiltration without tenderness or fluctuation was developing around the bullæ on the back. Nov. 28th. Patient fell in a faint. Rectal temperature 104.8° F. Considerable weakness, but physical examination was negative. Nov. 29th. Patient rallied well to stimulants and appeared much better.

On December 1st, I came on duty and prescribed the powder treatment. Dec. 2nd. A chill lasting an hour with a subsequent temperature of 104° F. No new blebs had appeared and the old ones were crusting and drying up. Dec. 5th. A few bullæ form from day to day. A blood count showed 20,800 white cells of which 83% were polymorphonuclears. The patient volunteered the statement that the new treatment was a great success and that he had slept much better than before and that he was far more comfortable. Dec. 8th. The man was growing weaker gradually. A very few bullæ appear each day. Left arm swollen and tender. Dec. 11th. A large septic elbow was opened and a pint of pus removed. This large abscess, which finally formed and manifested itself so quickly, apparently explained the leucocytosis and the severe general symptoms. Dec. 13th. Incontinence of urine. The blood count reached 24,600 leucocytes. Dec. 16th. The patient had grown steadily weaker despite tremendous stimulation and died to-day. Anatomical diagnosis: arteriosclerosis, œdema piæ, cholelithiasis, prostatic concretions, right hydronephrosis, fatty metamorphosis of liver and septicæmia (staphylococcus aureus).

Summary. During the two weeks of powder treatment the skin grew practically well; no new bullæ had formed for several days. The old lesions were merely dry crusts and, despite approaching death, this old man's body remained sweet and clean and absolutely free from any tendency toward sloughing or bed sores—such a contrast to the last days of former cases of pemphigus treated by other methods!

It is my personal belief that this patient would have completely recovered if the large abscess had not developed or could have been detected earlier. Such a severe condition, however, is not usually compatible with life at the age of 87.

Case 10. H. S., aet. 68, entered the Massachusetts General Hospital on January 31st, 1912. Diagnosis, uncertain, for the disease resembled dermatitis herpetiformis and also pemphigus foliaceus.

For the previous eight months the scalp had itched. Two weeks before entrance the forehead and neck became pruritic and eventually the whole body became involved in the same process. On scratching, moisture developed.

At entrance, the entire body and scalp were covered with reddened, crusting lesions up to ¼-inch in diameter. The lesions were never tense but flaccid as in pemphigus foliaceus and yet the vesicular coverings were always thick and not delicate and crumbling. Carbolized zinc wash, zinc paste and starch baths were recommended. Feb. 7th. Patient's condition was worse. The lesions were very red and seemed like uncovered bullæ. The bed and powder treatment was prescribed. Feb. 10th. Since confinement to bed the disease has improved markedly, the lesions becoming much paler and smaller. Feb. 13th. Erythema much diminished; the lesions are smaller and much drier. Patient wished to get up. Feb. 21st. Legs moist with considerable œdema. Feb. 23rd. Body dry but erythema persists. Legs much better. March 4th. Patient discharged practically free of her disease.

Summary. A low-grade, bullous dermatitis was dried up and temporarily cured in this instance in less than four weeks, but the disease recurred and the patient re-entered the ward. Her second visit was not a long one and since her departure we have not seen her again.

Case 11. Miss M.; age, 32; shopgirl; diagnosis, dermatitis exfoliativa.

On March 12, 1912, I was called in consultation by Dr. B. G. Moran of Nashua, N. H. The patient had had scarlet fever as a child and had always had a rough skin ever since. In January, 1912, Dr. Moran had treated the girl with a tannic acid solution for a fissured nipple. Two weeks later a psoriasiform eruption developed on the arms, forehead and a little on the body. Toward the end of February the face and body suddenly became scarlet red and swollen, the cervical glands enlarged and the temperature rose to 104° F. unaccompanied by any subjective cutaneous symptoms. In two or three days the condition subsided and desquamation began. At a consultation held at this time scarlatina was excluded and a diagnosis of pityriasis rubra made. On March 7th a second and similar attack appeared and for six days the temperature ranged about 103° F. with a pulse rate of 120.

At my visit I found a well-nourished young woman with a dusky-red skin in a universal state of desquamation. The face was fairly bright red, the cheeks were covered with fine, rather adherent scales. The neck contained palpable anterior glands. The hands were very dry and peeling freely with a tendency toward large flakes. The palms and finger tips were hard and much thickened. The arms, trunk and thighs showed a moderate degree of fine desquamation while the lower legs were in a state resembling ichthyosis. The patient seemed well and was firmly convinced that her whole trouble was due to bridge work of her teeth.

Confinement to bed and thorough dredging with powder together with the forced ingestion of hydrochlorate of quinine were advised.

On May 6th in answer to a recent letter of inquiry, Dr. Moran wrote me the following note: "The patient's fever continued until the second day after your visit, then dropped to normal and has remained so ever since. She has made a good recovery."

Summary. Complete recovery in a few weeks from a severe attack of dermatitis exfoliativa.

This finishes the unavoidably long account of these eleven cases of severe, always distressing and frequently fatal diseases.

In conclusion it will be interesting to tabulate some of our figures in regard to the termination of the diseases under consideration. In two columns will be found our results of treatment before and after the introduction of the dry form of treatment of these important cutaneous affections.

Massachusetts General Hospital.

Miscellaneous Methods.

Pemphigus	Dead	5
	Relieved or cured	3
Dermatitis Exfoliativa	Dead	10
	Relieved or cured	5

Massachusetts General Hospital and Private Practice.

Dry Method.

Pemphigus	Dead	1 (probably intercurrent cause)
	Relieved or cured	2
Dermatitis Exfoliativa	Dead	0
	Relieved or cured	6

These figures speak for themselves more eloquently than my words and it is in the hope that the dry method, described and advocated in these pages, may be given a trial by you all when confronted with the serious problem of caring for the unfortunates afflicted with these moist diseases that this paper has been written and presented to you to-day.

DISCUSSION.

Dr. Pollitzer said the results obtained by Dr. White by this method of treatment were very striking. As to the *rationale* of the method, it was probably rather complex. It involved complete rest in bed, protecting the patient from contact with external objects and keeping him covered with the powder. By keeping the lesions dry, preventing crusting, it was difficult for the organisms to multiply and spread. The latter, however, was possibly a factor of secondary importance and the speaker thought the most essential element of the treatment lay in keeping the patient covered with powder, which cooled the skin and exerted a soothing influence on the nerve ends. It contracted the blood vessels and acted as a universal antiphlogistic application.

Dr. Howard Fox, after congratulating Dr. White upon his excellent results, said that at the meeting of the Association in Boston last year, when Dr. White showed a case of dermatitis exfoliativa which had apparently improved markedly under the powder treatment, he was inclined to feel a little skeptical in regard to it. Subsequently, in a case of dermatitis exfoliativa seen in Dr. Jackson's service at the Vanderbilt Clinic, the patient was instructed to use

the powder freely on one side of the body, while an ointment was used on the opposite side. After one month's continuous treatment, very little difference could be seen between the two sides, while the patient himself claimed that he had obtained more relief from the ointment than from the powder. That patient, however, was not confined to bed and the details of the treatment, as described by Dr. White, were not carried out.

Dr. Engman said that some years ago Dr. White had written to him to ask his advice in regard to the treatment of a case of dermatitis exfoliativa. Dr. Engman wrote Dr. White and advised the powder treatment as the speaker had used powder in this manner in several such cases and was very much impressed with the result he had obtained. In suggesting the treatment originally, Dr Engman said, he did so with the idea that the various salves that had been used in this affection prevented radiation of the body heat and that by substituting a powder, with the many sides which each grain of powder presented for evaporation, a much larger surface for evaporation and for the radiation of heat was afforded.

One great objection to this method of treatment, Dr. Engman said, was that it rendered the patient very uncomfortable for the first week, on account of the dryness and cracking of the skin. This could be largely alleviated by giving these patients an occasional colloidal or starch bath, with the addition of a little bicarbonate of soda. The bath could be repeated every day or every other day and then, after the patients had patted themselves dry, the powder could be reapplied. The speaker said he was firmly convinced that the dry treatment gave excellent results in some of these cases.

Dr. Foerster said that after the Boston meeting, a year ago, he used this method in the case of a woman, aged 68, with a generalized exfoliative dermatitis. After the powder had been applied a short time the patient was very uncomfortable, owing to the marked "splitting" of the skin. The treatment was persisted in for ten weeks and the patient made a complete recovery.

Dr. White said that crusting in these cases must be guarded against, because if one left even a single focus of pus in the body, the patient would not get well until this focus was healed. The treatment must be thoroughly carried out in all its details and this could not be done at the patient's home unless he were under the constant supervision of a nurse. It could best be conducted in the hospital. The speaker said that in his experience, these patients were not rendered very uncomfortable by the treatment and in almost every one of his cases they voluntarily stated that they felt better from the very onset of the treatment. In some of the cases starch baths had been tried but had been discontinued as the patients did not seem to get on so well. Personally, he was opposed to the use of any moisture on the body during the course of the treatment.

A RECURRENT ECZEMATOID AFFECTION OF THE HANDS.*

By S. Pollitzer, M.D., New York.

Professor of Dermatology, New York Post-Graduate Medical School and Hospital.

FOR several years I have been observing a form of dermatosis which is not mentioned in the works on skin diseases and is generally confused with nummular eczema by dermatologists. And yet the disease presents certain features which serve, in my opinion, to separate it sharply from eczema and to place it perhaps in the group of the bullous diseases, making it possibly a form of dermatitis herpetiformis, but of a type so mild and so uniform that it deserves special consideration.

The disease occurs in the form of round, sharply defined groups of closely aggregated vesicles on the dorsal surfaces of the hands, less frequently on the fingers and rarely on the sides or extensor surface of the lower half of the forearm. As a rule both upper extremities are affected, but there is no strict symmetry. The patches vary in diameter from 1 to 3 or rarely 4 cm., and most of them are 2 to 3 cm. in diameter. The outline of the patches is regular and for the most part circular; even on the forearms there is very little, if any, difference in the longitudinal and transverse diameters. The vesicles cover the affected areas uniformly; they are a little larger than the vesicles of eczema; and when protected from injury they persist unbroken for a long time, until their contents are absorbed or evaporated, so that weeping or oozing of serum does not necessarily occur. The lesions give rise to moderately severe paroxysmal itching.

I have never seen the lesions at their inception, but from the patients I learn that the affection begins with a circumscribed erythema and pruritus, which are followed in a few hours by an eruption of vesicles. Sometimes the fully developed lesion covered with vesicles is found by the patient to be present for the first time on awakening in the morning. It is characteristic of the disease that the entire patch is uniformly covered with the vesicles. Once

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formed, the vesicles persist for several weeks when protected and gradually dry down, leaving a reddened and slightly scaly surface which may disappear under appropriate treatment in the course of a few weeks more. It is characteristic of the disease that the patches once formed undergo no change in size or shape. There is no peripheral extension, no confluence with adjacent patches, no clearing up of a part of the periphery, nor of the centre. The patches come out suddenly, attain their full development in a few hours, remain unchanged for several weeks—except for the gradual drying up of the vesicles and the subsequent desquamation—and disappear. Then, after a varying period, it may be a month or two, it may be a year, there is a fresh eruption of the same character, developing suddenly and running the same course. In the recurrence the lesions may occupy entirely new areas of the hands and forearms or some of the new patches may be on the site of former lesions. Subsequently there may be a third or a fourth or, as I have seen in one case a sixth attack of similar character, the lesions always limited to the backs of the hands, fingers, or distal parts of the forearms.

The disease, while not common, is not very rare. Since my assistants at various clinics with which I am connected have learned to recognize it, I have seen four or five cases or more in a year. The disease is not seasonal, it occurs at all periods of the year. I have never seen it in children nor in the aged; my cases range from 18 to 47 years of age.

Permit me to narrate briefly the histories of two typical cases:

J. F.; capmaker; age, 19. The first attack occurred in June, 1911, and the lesions are described by the patient as similar in size and appearance, though their location on the backs of the hands was not identical with that in the second attack in March, 1912, when I saw him. He presented a group of vesicles about 1.5 cm. in diameter over the middle of the second metacarpus of the left hand, and another lesion, 2 cm. in diameter, over the metacarpus of the thumb; two patches, 1.5 and 2 cm. in diameter, near the middle of the back of the right hand. (Fig. 1.) There was an eosinophilia of 9%.

Mrs. K.; widow; age, 47; general health good. First attack, February, 1910, which consisted of a group of vesicles about 2 cm. in diameter at the inner side of both wrists. Second attack, December, 1910, consisting of a group of vesicles at the inner side of both wrists and on the back of the right hand. Third attack, April, 1911; inner side of right wrist and back of both hands. Fourth attack, December, 1911; inner side of right wrist, back of right hand and two small patches on lower portion of left forearm. Fifth attack, March, 1912; two patches about 2 cm. in diameter on inner side of right forearm, and one week later a patch about 1.5 cm. diameter on the back of the right hand. Sixth attack, May, 1912, a patch 2.5 cm. in diameter on inner side of right wrist one about 2 cm. on the back of the left hand and two patches on the inner side of the left forearm, 2 cm. and 1 cm. respectively in diameter.

There is no appreciable disturbance in the patient's health preceding or during the attacks. Blood counts made during the fifth and the sixth attacks showed an eosinophilia of 5%.

In the diagnosis of this disease we have to consider two diseases: first, that dermatosis that is spoken of variously as nummular or vesicular or herpetoid or neurotic eczema; and second, dermatitis herpetiformis.

What is nummular eczema? The term was introduced into dermatology by that excellent clinician, Devergie, who described it in these words:* "Eczema nummulare has as its special feature the fact that it develops mainly on the surface of the limbs, particularly the upper extremity, though also on the surface of the trunk; it appears in little patches which assume at once their full size; they are round, of the size of a five franc piece or a little larger; they have no raised border—which distinguishes them from ring-worm—their margin is flat and merges into the rest of the skin as in ordinary eczema; they are accompanied, furthermore, by redness, vesiculation, itching, and a serous secretion."

We have here a brief description of the disease which is perhaps better known under the name of vesicular or herpetoid or neurotic eczema. I shall not go into the question of the nosological position of the disease known by these names. A study of the history of eczema will show the great change that has come over our notions of this disease since Willan first used the term to describe an acute disease characterized by the eruption of vesicles, through Rayer, who first widened the conception of eczema implied in the term chronic eczema, down to the present time when eczema is regarded as a dry scaling process in which vesiculation may or may not occur. Eczema, primarily vesicular in the sense of Willan, is either entirely neglected by most authors, or is given little consideration, or is treated in an unsatisfactory or even contradictory manner. So one recent, prominent writer says of eczema on one page of his text-book,—"fluid exudation is not always present," and on the next page "the vesicular variety may be considered as the most typical expression of the disease."

The simple fact is that we are divided between our preconceived traditional notions of a vesicular Willanic eczema and what we see under our eyes every day, namely, a dry, red, scaling, pruritic disease, which only occasionally, and then usually under some obvious

*Traité practique des maladies de la peau, 2 *me* Ed., p. 238.

irritative application, begins to develop vesicles and ooze. For my part I have my doubts about the propriety of grouping a primarily vesicular affection with eczema at all. Be that as it may, the disease to which I am directing your attention differs from the vesicular or herpetoid eczema in many important points. Vesicular eczema occurs on any portion of the surface; erythematous areas occur in association with those wholly vesicular; many patches are only partly covered with vesicles; the patches themselves, though often round, may be of very irregular outline either *de novo* or through confluence of adjoining patches. The disease may last for months or even years, and present at any given time all the various stages of erythema, vesiculation, crusting, scaling, etc. There is no increase in the number of eosinophiles in the blood.

In the disease which I am here considering, the lesions are limited to the dorsal aspects of the hands and to the forearms; the lesions are uniformly vesicular; the patches are covered in their entire extent by vesicles; they are absolutely round or elliptical in shape; they neither increase nor diminish in area when once established; there is no confluence of adjacent patches; the duration of the lesions is six to eight weeks; there is a pronounced eosinophilia; the disappearance of the lesions is followed after an interval of one or many months by a fresh eruption of similar character and distribution and the recurrences may be indefinite in number.

To emphasize these differences permit me to present a typical case of vesicular or herpetoid eczema (Fig. 2.):

Mr. G.; age, 34. The disease began six months ago on the sides of the thorax and abdomen as extensive groups of vesicles and erythematous areas; it has now disappeared from the trunk. Two to three months later, patches appeared on the back of both hands, the extensor surfaces of the forearms, the flexor surface of the right leg and the dorsal surface of the right foot. The lesions are still present. An inspection of the photograph of the hands shows several small, round or elliptical areas covered with vesicles and one large patch of an irregularly quadrilateral outline, an appearance never seen in the disease I am describing. Furthermore, on closer inspection it is clear that the vesicles do not cover the affected area completely or uniformly. There are clear spaces on the surface of the patches free from vesicles. The laboratory assistant who was directed to make a differential blood-count reported that in 100 cells counted he had found no eosinophiles.

The general distribution, the irregular shape of the lesions, the frequently irregular distribution of the vesicles in the affected areas, the absence of eosinophilia and the long duration and erratic course of the disease serve to differentiate it from the affection which is the subject of this paper.

The differentiation of the disease in question from dermatitis herpetiformis is not readily made if we grant the possibility of

Duhring's disease running so mild a course. In dermatitis herpetiformis we have these features in common with the disease in question; a pruritic, herpetiform eruption, remissions with periods of complete freedom, indefinite recurrences and eosinophilia. But the eruption in dermatitis herpetiformis is not uniform, polymorphism is an essential feature of the disease, in which erythematous areas, papules, vesicles and bullæ all figure to a greater or less extent. To group the mild affection which I have described with the formidable disease we call dermatitis herpetiformis, seems to me would only lead to greater confusion, though on the whole I think the disease more closely belongs to the Duhring group than anywhere else.

Histology.

Sections were made from a case of a few days' duration representing a typical lesion in its early though fully-developed stage. A study of the sections shows the following features: The papillary and sub-papillary plexus of vessels are markedly engorged and surrounded by an inflammatory round-cell infiltration. The intensity of the hyperæmia is greatest in the papillæ immediately under the vesicles. The epidermis in general, in the intervesicular portion is very little altered; there is a moderate degree of œdema, not sufficient to bring about more than the first signs of parakeratosis. There is no apparent increase in the number of mitoses, no diminution of affinity for various stains on the part of the nuclei, no increase nor diminution in the thickness of the keratohyalin layer, no preservation of nuclei in the stratum corneum; in short, we have only such slight changes in the epidermis as we commonly find associated with an active hyperæmia.

The vesicle itself is formed by a separation of the rete cells lying immediately over a hyperæmic papilla, the cells being compressed, the intercellular spaces growing wider from within outward till in the upper part of the rete we come to an accumulation of clear serum lying just at the line of the granular layer, which has raised up the entire horny layer to form the roof of the vesicle.

A comparison of the histological picture with that in eczema shows marked differences which, however, it must be admitted are mainly those of degree. The vesicle viewed by itself greatly resembles a vesicle of eczema, but in eczema the vesicle is only the pathological expression of the acme of a process which involves the entire epidermis, while in the disease I have described there are virtually no changes in the epidermis in the intervesicular portions. The entire picture makes the impression of a process whose primary seat anatomically is in the blood vessels of the sub-papillary and papillary layers, the vesicle-formation resulting from the sudden pouring out of serum from the capillaries of a single papilla.

The picture resembles that seen in the smallest vesicular lesions of dermatitis herpetiformis in the relatively marked œdema and cellular infiltration of the papillary layer, the absence of notable acanthosis or of increase in the number of mitoses. The vesicle differs radically from that in Duhring's disease in its location, being subcorneal in the disease in question and infra-epidermic in Duhring's disease.

PLATE XXIV.— To Illustrate Article by Dr. S. Pollitzer.

Fig. 1.
Recurrent Eczematoid Eruption.

Fig. 2.
Herpetoid or Neurotic Eczema.

To sum up, the disease I have described is characterised clinically by the occurrence of pruritic groups of resistant vesicles, which entirely and uniformly cover the surface of small round or elliptical areas on the backs of the hands and the sides and backs of the lower portion of the forearms, remain stationary, without extension or confluence or change of outline for several weeks, dry, desquamate and disappear, to be followed after varying intervals by repeated recurrences of similar character. During the eruption there is a moderate eosinophilia.

DISCUSSION.

Dr. G. H. Fox said that Dr. Pollitzer was to be congratulated upon his ability to present such a clear-cut and admirable word-picture of an affection, which was familiar, doubtless, to all. The speaker said he had seen cases of this sort and had generally regarded them as eczematous rather than eczematoid. As Dr. Pollitzer had pointed out, they differed from eczema elsewhere, just as an eczema of the palm differed from eczema of other parts. The speaker said that in some cases he had seen, the lesions were recurrent and tended to increase in size, and they had not all disappeared in the course of six weeks. In some of his cases the patches had persisted for a much longer period, with astonishing obstinacy and in some instances had resisted all forms of treatment.

Dr. J. Grindon said that if he had correctly understood Dr. Pollitzer, the type of eruption he had described did not include the long-lasting cases of nummular eczema with which we were all familiar. In the recurrent, eczematoid type the lesions were often found along the course of certain nerves, frequently the ulnar or median, either on one hand or the other. The speaker said that personally, he had not looked upon these cases as eczema at all, but as cases of recurrent herpes of the hand, differing from herpes about the genitals or face only according to the anatomical differences of the tissues involved. They were analogous to the cases described many years ago by Blaschko under the name of herpes digitalis.

Dr. Pollitzer said it must be apparent that he had not described a disease hitherto unknown, but had simply attempted to call attention to some features of a not uncommon affection.

As to the relationship of this disease to herpes, histologically there was nothing in common between them; the histological picture was more like that of eczema. As to the distribution of the disease, to which Dr. Grindon had referred, the speaker said that in the cases he had seen it was limited to the hands. Possibly it might occur on the feet, but he had never seen it there. He had not associated its distribution with the course of any particular nerves and was rather disinclined to view it as connected with any nerve. He could not conceive of any nerve lesion which would produce three or four patches on each hand unless the lesion were central and such a location was of course entirely out of question. In view of Dr. Fox's remarks, he desired to emphasize the statement that recurrence of attacks and the stationary character of the lesions in regard to their size were essential features of the disease in question.

The speaker said he would feel that he had attained his object if by his paper he had directed attention to a dermatosis whose special characteristics seemed to him to warrant its separation from the group in which it was usually placed.

REPORT OF FOUR CASES OF KERATOSIS FOLLICULARIS (DARIER'S DISEASE).*

By W. H. Mook, M.D., St. Louis.

From the Barnard Free Skin and Cancer Hospital, St. Louis.

THE unusual experience of treating three typical cases of keratosis follicularis in the Barnard Free Skin and Cancer Hospital at the same time, and a fourth in the private practice of Dr. Engman, a short time previously, suggested to the author that perhaps the disease was not as rare as had been claimed by the various writers.

Literature.

In searching the literature, the first report of the disease was by Morrow, in The Journal in 1886. The second case was reported by White, in June, 1889 and the third by Darier, in July, 1889.

Darier, by his masterly study and description, has generally been credited with the original separation of the affection as an entity. An analysis of the literature and Morrow's article, however, undoubtedly lead one to the conclusion that Morrow was the original recorder. Lustgarten stated that the new history of the disease began with Morrow's report.

After Darier's article, in which he featured the so-called psorosperms as the ætiological parasites, authors have chosen to either ignore Morrow's case, or to classify it as ichthyosis follicularis, or the acné sébacée cornée hypertrophique of the French.

Morrow stated that the "most interesting clinical feature of this case was the implication of almost the entire follicular apparatus of the skin, in a morbid process, which had resulted in a dilatation and projection of the excretory ducts and the presence of comedo-like plugs, which were altered in character, and exaggerated in development."

He states that Guibot, under the title, "acné sébacée cornée hypertrophique," describes a disorder of the sebaceous follicles, closely corresponding to his case, but that the differential feature of this affection, is that it is scarcely ever observed except on the

*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., June 23-25, 1912.

brow, cheek and nose. MacLeod avers that the keratosis follicularis contagiosa of Brooks, (acné sébacée of the French) is strikingly similar in many respects, but in this, the *peculiar* degeneration has not been noted and it is invariably follicular. Keratosis follicularis is a hyperkeratosis and ichthyosis follicularis, a parakeratosis.

Referring to Lesser's article in *Ziemssen's Cyclopædia,* on ichthyosis follicularis, Morrow objects to this term, since it suggests a disease entirely different in nature, mode of development and objective symptoms. He "selected the term keratosis follicularis as more correctly expressing the pathological condition present, as well as indicating the pathological seat of the disorder."

His sections were examined by Dr. A. R. Robinson, who described the corneous layer thickened, rete unchanged and corium normal, except slight dilatation of some of the blood vessels in the immediate neighborhood of the papule. The papule above the surface consisted of epithelial cells, *in various stages of degeneration,* although a majority resembled those of the upper corneous layer of the skin or the epithelial cells of the funnel-shaped orifice of a hair follicle. The remainder of the papule, the part beneath the general surface, consisted of fatty and corneous degenerations of the epithelium, epithelial and fatty débris and portions of hair shafts, all lying in a greatly distended sebaceous gland.

Darier, being more fortunate in having a case presenting vegetations, secured tissue for study exceedingly rich in the so-called psorosperms. These bodies are generally conceded to be present in all cases, but differ greatly in numbers and especially in the lesions excised for examination, thus explaining Morrow's and White's failure to attach great importance to a few peculiar epithelial cell degenerations.

Darier's views that the "corps ronds" were psorosperms, were supported by Lustgarten, Malassey and Balbiani, but in 1890, Bowen and White, in considering the possibility of the psorosperms being parasitic, said: "It cannot be denied that many good reasons have been offered in the admirable paper of Darier for considering it not improbable that these bodies may be proved to be coccidiæ." Culture and inoculation experiments have since proved his assumption.

Fabry, in an article on "Psorosperms in Skin Diseases" discusses two diseases in which psorosperms, or bodies resembling these protozoa, have been claimed to originate; viz., epithelioma and molluscum contagiosum. Pick proved the latter disease to be contagious,

but Török considers the molluscum bodies to be modified epithelial cells. Paget's disease is generally conceded to be epithelial. He gives a list of all the cases of psorospermosis recorded up to that time, fifteen in all, but fails to mention Morrow's one, and White's two cases.

The first case of Darier's disease shown before the London Dermatological Society was in 1904 and the splendid and thorough study of this patient by Omerod and MacLeod, revealed that the lesions are not necessarily follicular. Up to this time there were only thirty cases and twice as many males as females. In my limited experience, I have seen five cases, four of whom were males.

MacLeod thinks heredity plays some part in the ætiology of the disease and his opinion is supported by many other observers. Marianelli reports the affection in two sisters and one brother in a single family; Boeck saw it in father and two sons and White in father and daughter. One of my patients states that his brother has the same affection. Another avers his sister also has it, but not so marked.

MacLeod objects to the name psorospermosis follicularis vegetans, as it is not a psorospermosis, is not follicular and only vegetating in a late stage of its course. Keratosis follicularis is equally inappropriate, as it is not an ordinary keratosis and may not be follicular.

Herxheimer reports three cases which he treated by cauterization with the Pacquelin cautery. The case treated in 1892 was cured, relapsed four years later, was again cauterized and has since remained well. A second was cauterized in three sittings, without an anæsthetic and three months later was free of recurrence, except a few lesions on the hands.

The fourth case in America was reported by Bowen, in 1896, which in all respects was clinically and histologically characteristic. He concludes that the epithelial degeneration is an irregular keratinization of the epidermal cells, an opinion which has since been generally accepted. He calls attention to the obstinacy of the affection to treatment. His opinion that it was strange that no instance of development into malignancy had been recorded was justified by Wende, who, in an admirable study, reports a very important case resulting in multiple epitheliomata with 107 tumors. This is the only case, so far as I can find, resulting in this condition. All three clinical varieties of epithelioma were present; superficial, deep and papillary, but they showed no marked degree of malignancy.

His sections, like Morrow's, showed predilection for the upper third of the sebaceous follicle.

The following four patients have been under observation and treatment at various times at the Barnard Free Skin and Cancer Hospital and all have shown the best improvement under X-ray treatment.

Case Reports.

Case I. J. W.; male; white; age, 45. This patient was first examined in the St. Louis City Hospital in 1905 and has been under observation and treatment at the Skin and Cancer Hospital ever since. He was formerly under the care of Dr. Grindon, of St. Louis, who reported the case in the Washington University Bulletin. No member of his family has ever had any skin affection. His present trouble began when he was eight or nine years of age, appearing first on the scalp, as thickened, small, yellow, adherent patches and crusts. The eruption was persistent and did not begin to spread until adult life, when lesions began to appear on the face and neck, spreading slowly, until they finally involved the entire head, face, neck and trunk. The arms and forearms were involved in their entirety. The lesions were of many sizes, from a lentil to a pea and where confluence had ensued, large plaques, resembling a keratotic eczema, were present. Generally, they consisted, except in the genito-crural region, of keratotic papules, varying in color from a purplish red, to brown and yellow, with various colored, closely adherent plugs and scales and a horny plug apparently in each follicular opening. Upon removal of this plug, a funnel-shaped depression or umbilication was observed, for the most part in the sebaceous follicles. This was unusually well marked on the palms and soles.

The lesions on the head and face consisted of horny plaques, discrete and confluent lesions, which were greasy and rough to the touch. There were no lesions on the penis, but in the perineum and apposing surfaces of the crural region, were seen granulating tumor-like vegetations, which were moist, protruding as much as one inch in the groins and thighs and the follicular openings gaping, many of them containing a grayish plug. There was considerable discharge from secondary infection and the odor was very offensive. The palms were evenly thickened and yellow and everywhere were seen minute depressions and umbilications. The entire dorsal surfaces of the hands were involved; the skin was very rough and there were countless, small depressions present between the papules.

The pruritus was intense at times, especially when secondary infection was present. On the face, scalp, hypogastric region and back, with a very symmetrical distribution, the lesions had become confluent to form large patches, with great masses of cornified, greasy-yellow scales.

The anterior half of the hard palate was thickened, somewhat redder than normal and had the appearance of granulation tissue covered by mucous membrane. The tongue was also involved with raspberry-like projections, but the surface was not denuded. The patient had been treated with the X-ray at various times in the last seven years, until there was only a moderate formation of keratosis and scaling. The vegetations in the perineum were excised and the open wounds treated during cicatrization with the X-ray and he now presents cicatrices at the former sites of the vegetations. The treatment has cured most of the lesions and has apparently arrested the progress of the disease. The urine has at all times remained normal. The blood counts have

been practically normal, except when severe secondary infection was present. An interesting phenomenon at one time observed, was the presence of large numbers of the Spirochæta refringens in the vegetating lesions.

At the present time he is almost cured, the only active lesions being a few remaining vegetations in the perineum and gluteal fold posteriorly. The X-ray has been of wonderful service in this case. You all have seen his picture in Pusey's work on dermatology and will be able to judge the effect.

Four years ago the patient developed macular lues and was treated with mercury internally and the eruption disappeared. One year ago the Wassermann reaction was strongly positive and though he had no luetic skin lesions he was given an intravenous injection of salvarsan. There was no change in the follicular keratosis following the injection.

Case 2. Chas. F.; age, 18; from the Barnard Free Skin and Cancer Hospital. The family and previous histories were unimportant, except that he is the only member suffering from any skin affection. The present trouble began 13 years ago, immediately after an attack of measles. The eruption was first noticed on the eyelids and gradually spread over the face, disappearing to a large extent, during the cold months, to reappear with renewed vigor in hot weather.

The lesions are distributed over the upper two-thirds of the body, the scalp, face, ears, chest, back, abdomen and upper extremities. The primary lesion is a keratosis of each follicle and when large numbers are involved in close proximity, the appearance of a keratotic, chronic eczema is obtained. The palms are thickened and keratotic, with numerous, small depressions and umbilications. The mouth is not involved and there are no vegetations in the axillæ or genito-crural region.

He was given X-ray treatment for a few weeks and was considerably improved, but refused to continue the treatment more than one month.

Case 3. Jos. A.; age, 21; from the Barnard Free Skin and Cancer Hospital. The patient stated that a brother had exactly the same affection, limited to his face. No other member of the family had ever suffered from any skin trouble.

According to his mother's statement, the lesions appeared a few months after birth on his scalp and the eruption has persistently continued to spread, but very slowly, ever since that time. When he entered the Skin and Cancer Hospital the entire face, scalp, neck, axillæ and upper extremities, presented the typical keratotic papules which were both discrete and confluent. Quite a few discrete papules were appearing across the abdomen at the waistline, perhaps determined by friction from his belt.

The individual lesions were very typical, keratotic, follicular papules—symmetrically distributed over the entire head, face and neck, the axillæ, forearms in their entirety, feet and lower third of the legs. The palms and soles presented the usual keratosis with minute depressions. The lesions, as in the other cases, consisted of a small primary papule in the centre of which was a greasy-yellow plug and usually situated in the sebaceous follicle. Numerous papules coalesced to form the large keratotic and scaly patches.

There were no vegetations in the axillæ or genito-crural region and the mouth was unaffected. The nails were pitted and corrugated. He was given X-ray treatments every other, or every third day and showed a very marked improvement. The keratosis became decidedly less marked over all the regions, except on the feet and legs, which received no treatment. He disappeared after about forty treatments.

Case 4. R. B. W.; age, 24; private patient of Dr. Engman's. The patient consulted Dr. Engman for an eruption of the face, neck, shoulders and hands, which had been attributed to poisoned ivy. Ten years previously, while working

in the field one day the patient noticed a sudden outbreak of "blisters" on his face—the eyelids and face were swollen and there was considerable itching and burning. The lesions spread down over the neck in a few days; the swelling in his face rapidly subsided.

The eruption had persisted for ten years, with acute exacerbations, particularly exaggerated by sunburn and irritants, such as dust or extremes of weather and especially when handling grains, such as oats.

When he was first examined the disease involved the scalp, ears, face, entire back, neck and shoulders. The arms and forearms were free, but both surfaces of his hands showed innumerable, individual and confluent papules. A marked brownish-black pigmentation over the affected areas suggested the diagnosis of acanthosis nigricans, but the axillæ and groins were free of lesions or excessive pigment.

The primary lesions consisted of a minute keratotic papule and when present in numbers, coalesced to constitute eczematous-looking patches. The lesions on the hands were flattened papules with rather slight keratosis, greatly resembling masses of juvenile warts, but the palms presented myriads of minute, keratotic, umbilicated lesions.

Treatment with X-ray produced very marked and constant improvement. Local applications of such remedies as salicylic acid and sulphur produced merely a temporary relief from the keratoses and scaling.

Histopathology.

Characteristic papules were excised from all four patients and the variations were so slight, being chiefly a question of degree, that one general description suffices for all. Most of the lesions could be traced to a follicular origin, the minute primary lesions, however, being occasionally independent. As a rule, the epidermis was the only structure involved, unless secondary infection ensued, when the usual signs of inflammation of the upper corium were present.

Corium. As stated before, this tissue showed few changes, except immediately beneath an unusually active or large papule and on these occasions the elastic tissue seemed slightly diminished, especially the fibrils cementing the basal epidermal layer; the capillaries were somewhat dilated, but the connective tissue showed no changes, except perhaps, a few young spindle cells. Lesions involved in secondary infection, of course, showed the small, round-cell infiltration and usual picture of infection and, at times, microörganisms of the staphylococcic variety could be demonstrated.

Epidermis. The variety of changes were numerous. As a whole, thickening, proliferation, at times destruction, acanthosis, hyperkeratosis, dyskeratosis, degeneration and fatty and hyaline débris, with the presence of a few, to many, of the characteristic "corp ronds" were the usual changes noted. In none of the sections examined, even in those consisting of vegetations, however, was the sharp line of demarcation of the basal layer destroyed, nor was there any other tendency to malignancy.

The rete cells presented inter- and intracellular œdema at times; at others, complete destruction leaving large open spaces of probable fatty degeneration. The individual cells varied wonderfully in size, from a shrunken, small cell, with a small granular nucleus, to the large roundly contoured vacuolated "corps rond" with a large homogeneous or granular nucleus. The vacuolated cells varied so in size and appearance, that dozens of descriptions would hardly suffice to describe the many forms. Some were oval, others polygonal, others perfectly round, but as a general rule, they all possessed a light halo, or ring, either within the cell around the nucleus, or immediately extra-cellular. In some

lesions they were present in the largest numbers in the basal layer, in others in the rete and many times in the granular and horny layers. Occasionally one could see simply a large vacant area, where a cell had dropped from its surroundings, or had undergone fatty or hyaline degeneration and removed in the process of hardening or fixing.

The epithelial cells in the centres of the larger papules presented curious figures and formations. In some the nucleus consisted of almost granular débris while in others, the nucleus was retained and the protoplasm was represented by hyaline degeneration with a faint cell-wall.

The so-called "corp ronds" are curious, oval, round and occasionally polygonal cells, with a doubly-contoured membrane, refractile at times, with a large granular or homogeneous nucleus. They greatly resemble the blastomyces except those in which the nucleus has a marked affinity for stains. Considering the knowledge of coccidiæ at the time of Darier's article, one does not wonder at his enthusiasm, when he observed them for the first time, in declaring them to be parasites, especially when his opinion was confirmed by such workers as Malassey and Balbiani.

The horny layer was at all times greatly hypertrophied. In lesions not follicular, this keratosis was the essential feature of the lesion. Certain portions showed such different affinities for acid and basic dyes, that it seemed difficult to secure good specimens. Parakeratosis was not present. Pigment bodies were quite marked in the basal layers from most of the sections in Case 4.

MacLeod best expresses the process when he states that: "All that can be said at present in so far as the skin eruption is concerned, is a type of dyskeratosis associated with peculiar cell degeneration, which may affect any portion of the epidermis and is frequently located at the upper third of the pilosebaceous follicle or openings of sweat ducts."

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DISCUSSION.

Dr. Ravogli said he could only congratulate Dr. Mook for his excellent essay upon a disease so interesting and rare and obscure in origin as keratosis follicularis. During his earlier years, the speaker said, he did some work in connection with these affections and at that time they were believed to be the result of the psorosperms. Upon examination on several occasions he had found those round bodies psorosperms of Darier and Wicham, which Unna said were nothing but epithelial cells doubled up. Still, Dr. Ravogli said, he was not convinced that Unna was right and he believed that there must be something of a parasitic nature in the disease which may possibly be cleared up by future bacteriological examinations.

Fig. 2. Case 3.
Keratosis Follicularis.
Showing distribution of lesions on the face.

Fig. 1. Case 1.
Keratosis Follicularis.
Showing symmetrical distribution of lesions.

PLATE XXVI.—To Illustrate Article by Dr. W. H. Mook.

Fig. 4. Case 1.
Keratosis Follicularis.
Showing vegetating lesions in perineum.

Fig. 3. Case 2.
Keratosis Follicularis.
Showing distribution of eruption over face and neck.

PLATE XXVII.—To Illustrate Article by Dr. W. H. Mook.

Fig. 5. Cases 1, 2, and 3.
Keratosis Follicularis.
Showing general distribution of lesions.

Fig. 6. Case 4.
Keratosis Follicularis.
Showing distribution of lesions over the back.

PLATE XXVIII.—To Illustrate Article by Dr. W. H. Mook.

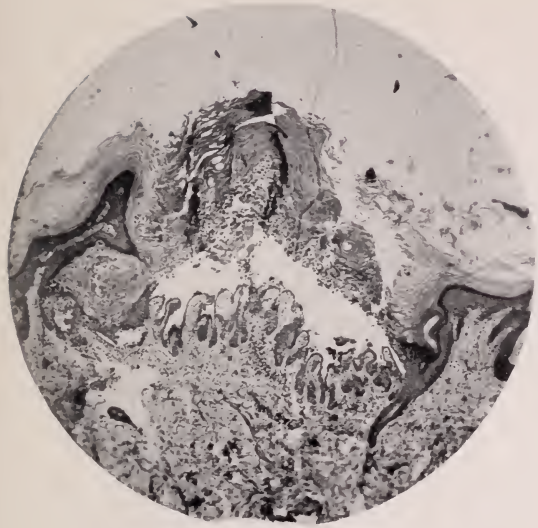

Fig. 7.
Keratosis Follicularis.
Showing low-power picture of typical keratotic papule and the characteristic location of the corps ronds.

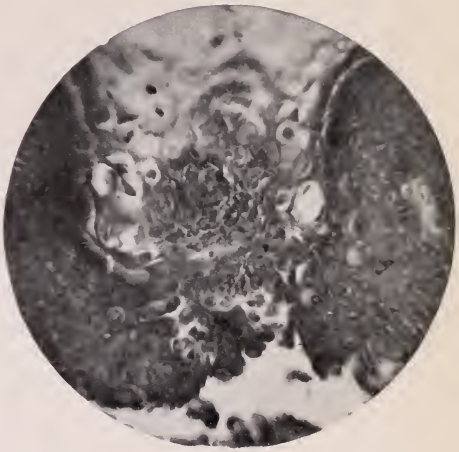

Fig. 8.
Keratosis Follicularis.
High power. Showing base of follicle and numerous corps ronds.

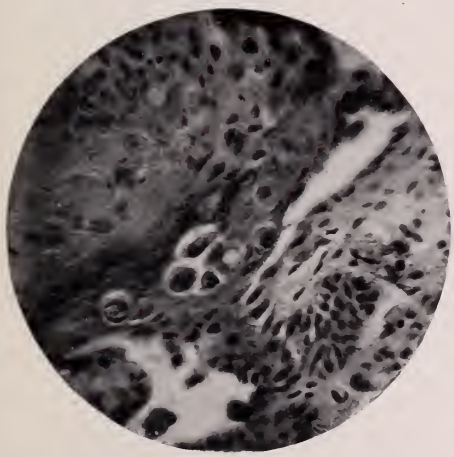

Fig. 9.
Keratosis Follicularis.
Showing group of characteristic cell degeneration in various stages.

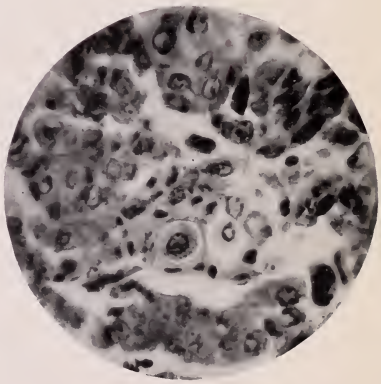

Fig. 10.
Keratosis Follicularis.
Showing large degenerated cell in centre.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, May 28, 1912.

HERMAN G. KLOTZ, M.D., *President.*

Tuberculosis of the Skin Treated with Tuberculin. Presented by DR. JACKSON.

The patient had been given injections once a week of an emulsion of tubercle bacilli, beginning with two minims and gradually increasing the dose. Since the treatment was begun in February, the boy had gained eight pounds in weight; the ulcerated surfaces had healed to a marked degree; and the lichen scrofulosorum, which was wide spread on his body, had nearly disappeared. Locally 5% ointment of salicylic acid had been applied to the ulcerated surfaces as an antiseptic dressing. After the first few injections the boy was said to have become flushed and sleepy. As he lived out of the city and went home after the injections, no accurate record of the reactions could be kept. The patient was presented to the Society on Feb. 27, 1912 (*Jour. Cutan. Dis.*, Aug., 1912).

Folliculitis Decalvans (?) Presented by DR. DADE.

Dr. Dade said that the patient had had typhoid fever in Naples five years ago followed by loss of hair which, however, grew in again, only to be lost again later. The condition as shown had existed for two years. Dr. Rainforth had seen the case and had made a microscopic examination, but found nothing which would lead to a diagnosis. The diseased follicles were rather patent, there was little redness and the tissue of the scalp where denuded of hair, was white, scar-like and somewhat depressed. The hairs in the follicles at the periphery of the patches came away easily with white, succulent roots. The vertex and occiput were the parts affected.

DR. JACKSON thought that the case was one of folliculitis decalvans, an instance of the pseudo-pelade type of Brocq. In three cases of this disease, which he had had under his care, the condition had been controlled by the use of an ointment composed of salicylic acid, 15 grains, colloidal sulphur, 1 dram, lanoline, 2 drams, and goose grease up to 2 ounces. It was rubbed into the scalp once or twice a day and though not a pleasant remedy, it checked the progress of the disease.

Case for Diagnosis (Suggesting Lupus Erythematosus). Presented by Dr. Winfield.

The patient, a man 38 years of age, gave a history of having been exposed to the sun in Virginia last summer and this was immediately followed by pruritic patches on the arms and face. It seemed to be an erythematous lupus. It had never been very scaly, but the itching was intense. The patient stated that he had never had any skin trouble before and he naturally attributed the condition to the sunburn. The disease improved in winter, but returned with the advent of summer.

Dr. Whitehouse thought that it would eventually prove to be lupus erythematosus; he had seen lupus erythematosus following sunburn.

Dr. Robinson would not attempt a diagnosis and suggested that the patient be again presented in the fall.

Dr. Trimble said that it impressed him as being a persistent, recurring, erythematous condition, something like erythema perstans—chronic recurring erythema.

Dr. Winfield thought there was some atrophy of the skin of the hands.

Dr. G. H. Fox said that the configuration of the patches on the cheeks strongly suggested the diagnosis of lupus erythematosus. It did not seem probable that the sunburn had anything to do with the condition. We saw so many cases of sunburn without the development of lupus erythematosus and so many cases of erythematous lupus without a history of sunburn, that a causal relation seemed doubtful.

Dr. Sherwell agreed with Dr. Trimble that it was an erythema perstans, or dermatitis perstans.

Dr. Jackson said that he hesitated to accept the diagnosis of lupus erythematosus. The improvement of the case in the winter was not the rule in that disease. The marked involvement of the backs of both hands and the face at the same time was suggestive of erythema. He was inclined to regard the case as one of erythema perstans.

Dr. Dade and Dr. Howard Morrow agreed with the diagnosis of lupus erythematosus.

Dr. MacKee thought that he noticed a marked atrophy of the skin of the hands. The follicules in the lesions on the face were patent and there was a violaceous color. These facts, added to the pruritus, configuration and adherent scales, strongly suggested a diagnosis of lupus erythematosus.

Melanoma. Presented by Dr. Winfield.

The patient was a retired policeman, 60 years of age. The first tumor began as a melanotic papule just below the left inner malcolus twelve years ago, but had never grown since. About two months ago other lesions appeared on the left foot and these were soon followed by many others on various parts of the body. He was presented in order to obtain suggestions as to treatment.

Dr. Jackson said that he regarded the case as one of melano-carcinoma. He

believed that pathologists now held that what used to be called melanotic sarcoma was carcinoma. It was generally advised not to operate on such cases lest they spread more rapidly and kill the patient. More than a year ago he had seen one of these lesions on the sole of an old woman's foot, which originated in a pigmented mole of long standing and which had gone on to ulceration. Dr. Hartley ablated it, and there had been no return of the growth; no development of new tumors; and the woman remained well.

Dr. Sherwell, while believing that operative procedure would be of no benefit in this case, expressed his opinion that an early and thorough excision in instances when only one or two nodules were present would result in a cure. The speaker related an instance of a pigmented sarcoma resulting from traumatism and increasing rapidly in size, in which a permanent cure followed an operation. The microscopic examination of the tumor showed it to be a typical melanosarcoma. The operation was performed about twenty years ago and the patient was still alive.

Dr. G. H. Fox said that the case was similar to one which he had shown several times, a year or so ago. The lesion occupied the same position on the ankle. The tumors in this case, however, were larger in size and were very much reduced by the use of the X-ray. The patient disappeared and the speaker did not know, but could surmise the ultimate result of the case.

Dr. Howard Morrow thought it was sarcoma, though not of the Kaposi type.

Dr. Johnston thought that it was melanoma and that excision offered the only chance for recovery. He then told of a case in which the muscular tissue on the back of the neck was deeply infiltrated. Deep excision was made and after seven years the patient was still well, with no return. Dr. Pollitzer had reported a case in which the tumors on the shoulders were excised and the patient was still well. If anything were to be done with the patient, however, it should be done at once. X-ray treatment had never done anything but reduce the size of the tumors.

Dr. Trimble agreed with the diagnosis of sarcoma and said that he had seen several such cases. If there were only one lesion, the proper thing to do would be to operate, although most of the cases which he had seen operated upon had terminated fatally.

Dr. Robinson said that the prognosis in this case was absolutely unfavorable and that at this stage of distribution it was hopeless to try to excise the tumors.

Dr. Whitehouse agreed with the diagnosis and was also inclined to agree with Dr. Robinson's prognosis.

Dr. Klotz said that there was a possibility that all the lesions present were metastatic foci originating from some internal tumor.

Dr. Winfield said that the man gave no history of failing health and seemed to be as well as he had been for the last fifteen years. He had been on the retired list for eight years and the tumor appeared on the foot a few years before he retired. The others had appeared and had grown so rapidly of late that it seemed a hopeless case. Three or four of the tumors had developed in the last week.

Dr. G. H. Fox said that the patient whom he had shown was apparently in fair health. He had recommended amputation at the upper third of the leg, but the patient declined to have it done, although it might have saved his life.

Syphilis of the Knee. Presented by Dr. Trimble for Dr. Fordyce.

The patient was a girl five years of age. The left knee was greatly swollen and painful on pressure. The duration was four months. Since beginning to walk at fifteen months of age the child had always kept the heel raised, walking on the ball of the foot. A history of lues in the mother was obtained. The child's Wassermann reaction was positive. The patient walked naturally after one week of "mixed treatment."

Case for Diagnosis. Presented by Dr. Trimble.

The patient, a young woman, had been shown before the Society about three years ago. At that time she had on the outer aspect of the right thigh a number of hypertrophic, slightly scaly, dull-red lesions varying in size from a split pea to a walnut. They had existed for ten years, itched intensely and were a source of considerable anxiety and loss of sleep. She had been treated in every way imaginable. Radiotherapy had caused a dermatitis and a great number of telangiectases which were still markedly apparent. During the discussion three years ago, two diagnoses were suggested, one, hypertrophic lichen planus and the other, multiple itching tumors of the skin. The tumors were finally ablated with the result that she had been practically cured. There were only one or two small lesions left which were slightly annoying. They were not recurrences, but places that were not entirely removed at the time of operation. Several microscopical examinations had been made, but nothing other than inflammatory tissue had been found.

Sarcoma Cutis. Presented by Dr. Trimble.

The patient had previously been shown at the March meeting of the Society. The clinical diagnosis was epithelioma, but the pathological specimen had caused considerable difference of opinion, some thinking the growth to be sarcoma; others, that it was epithelioma. Previous to operation, the lesion had existed for only ten months. It was about 1½ inches long and about 3 inches wide, with the characteristic rolled border of epithelioma. The growth had been excised with apparently a beautiful result, but three months after the operation, a recurrence was noted, in the form of two small, waxy lesions about an inch from the field of operation. The case was presented on account of the recurrence. The urine contained 3½% of sugar, but otherwise the patient seemed in good health.

Universal Lichen Planus. Presented by Dr. Winfield.

This case was very much like one that had been shown at the meeting of the American Dermatological Association in St. Louis. It was of the bullous type. The first lesions appeared on the left leg. These became

infected and were soon followed by a generalized bullous eruption. When presented to the Society there was nothing very remarkable about the case, but when first seen many of the lesions were bullous. Dr. Winfield said that in the last few months he had had as many as a dozen cases of lichen planus, many of them like this one. With one exception all the patients were Hebrews.

Dr. Whitehouse and Dr. Robinson thought there was no relation between the bullæ and the other lesions.

Dr. G. H. Fox said that in the case seen at the meeting of the American Dermatological Association in St. Louis, he thought the bullous eruption was incidental and had nothing to do with the lichen planus. The cases which Dr. Allen used to write and speak of, the speaker thought were the result of faulty observation, until he saw a similar case himself: The patient, a woman, whom he had shown before the Society with groups of lichen planus and smaller bullæ on the legs, was the only one in his experience of bullous lichen planus. He admitted that there really were such cases, but where large bullæ occurred, especially where the patient had been taking drugs, he was inclined to think the bullæ were accidental and not connected with the lichen planus.

Dr. Dade and Dr. Sherwell considered the case to be one of ordinary lichen planus.

Dr. Klotz said that within the last few years quite a number of observations of bullous lichen planus had been reported both here and abroad.

Case for Diagnosis. Presented by Dr. Trimble.

The patient was a young woman, 23 years of age; apparently in good health excepting for the skin condition. When seven years of age, she had been given an immunizing dose of antitoxine; this was followed by an erythematous rash which soon disappeared, but which kept recurring for about a year. After this, the patient's skin seemed quite irritable for a long period, as exemplified by numerous mild attacks of urticaria. When nineteen years of age, she was given another immunizing dose of antitoxine, which caused the same eruption as before, but much milder in degree. This remained for a short while, only to be followed by the present eruption which had existed for five years. The lesions were on the forehead, chest, back and abdomen. They were papular, they did not itch and some of them were followed by pigmentation and scarring. The disease strongly resembled ordinary acne on the chest and back, but one of the worst outbreaks had been on the abdomen, where the punctate pigmentations could be still seen. At one time it had been thought that the lesion might represent an atypical tuberculide; the patient was distinctly positive to the tuberculin test.

Tuberculosis Verrucosa Cutis. Presented by Dr. Winfield.

The patient was an Italian boy, 16 years of age, who had been in this country but a short time. Two or three years ago a bar of iron fell on

his toe, crushing it and a tumor developed, which was still present. There were a number of lesions on the leg which were markedly tuberculous in appearance. The patient was somewhat stunted in growth and was mentally deficient. The von Pirquet test was positive.

Dr. MacKee thought that the possibility of blastomycosis or some other mycosis should be considered.

Dr. Howard Morrow said that it did not seem to contain the minute pustules of blastomycosis.

Dr. Robinson regarded it as a case of tuberculosis cutis.

Dr. Whitehouse thought it was tuberculosis verrucosa cutis, but told of a case he had had which was clinically tuberculosis verrucosa cutis and got well under treatment for that condition, but had a relapse. This relapse may have been a different condition; at any rate his suspicions were aroused by the presence of miliary abscesses at the periphery and he looked for blastomycetes and found them. Some of the cases of blastomycosis which had been reported had for a long time been considered to be tuberculosis verrucosa cutis.

Dr. Winfield said that he thought it was tuberculosis verrucosa cutis. He had thought of blastomycosis and would have an examination made for that.

Case for Diagnosis. Presented by Dr. Trimble.

The patient was a married woman, 41 years of age, of Austrian birth. She had given birth to two children and had had no miscarriages. There was an eruption on the forearms, hands and legs. On the dorsa of the hands, the eruption was papular, had a distinct lilac hue and resembled lichen planus. On the leg, the lesions consisted of discrete papules with central atrophy and there were numbers of pigmented spots showing the sites of former lesions.

Dr. Trimble said that he was sorry there had been no discussion of the case, for he thought it was a rare unusual one. The lesions on the arms were probably newer than those on the legs, which were distinctly atrophic and seemed different from those on the arms. The condition had cleared up considerably without treatment.

Lichen Planus. Presented by Dr. Kingsbury.

The patient was a woman, employed at clerical work, 49 years of age. She had had the eruption on the flexor surfaces of the forearms and arms for nearly six years. Patches first appeared on the wrists and subsequently others developed above, forming long, band-like lesions. These extended from the wrists to a distance of about four inches above the elbow and varied in width from an inch to an inch and a half. There were no other lesions on the body.

Case for Diagnosis. Presented by Dr. Trimble for Dr. Fordyce.

The patient was a married man, 45 years of age. There was no venereal history; the Wassermann test was negative. He presented a

thick scaly condition of the palms. The duration was three years. The eruption presented a distinct border, was not itchy and there was a marked yellow hue. The condition had been very resistant to treatment.

Dr. G. H. Fox said that the case looked like a typical eczema of the palms. The clinical appearance together with the negative Wassermann would speak strongly against syphilis.

Dr. Sherwell thought that it was a simple erythematous eruption.

Dr. Jackson thought that it was a case of squamous eczema of the hands. Both hands were involved. In syphilis the rule was that but one hand was affected. To this of course there were exceptions. Over the knuckles of both hands the skin was thickened. This was very constant in eczema, but was not seen in syphilis.

Dr. Whitehouse said that it seemed to be a chronic eczema though the lesions on the borders of the thumbs and on some of the fingers suggested syphilis; syphilis was not necessarily excluded by the negative Wassermann test.

Dr. Robinson said that he saw nothing about the case to suggest syphilis. The borders of the lesion were not sharply enough limited, there were no semi-detached scales at the margin of the patch, nor did they have the color of syphilitic lesions. It was not uncommon to find some lesions in a chronic eczematous condition which resemble those of syphilis. The symmetrical distribution of the lesions did not favor syphilis. The speaker regarded the case as one of chronic eczematous dermatitis.

Dr. Bulkley said that he did not see anything to suggest syphilis. The borders of the lesions were not sharply defined and the scarring on the backs of the hands was different from anything he had ever seen in syphilis.

Dr. Klotz was inclined to consider the case syphilitic. There was a sharp border on the ulnar margin of both hands and he thought it was a case in which the negative Wassermann was liable to be misleading. These conditions required the most severe treatment. He had recently treated a patient with very much the same condition on both hands, but it required several infusions of salvarsan and a number of calomel injections to effect a cure.

Dr. G. H. Fox agreed with what Dr. Klotz had said. He had noted some sharply defined lesions on the fingers which looked very much like syphilis, but their marginate border was often seen in palmar eczema. He had a number of photographs where the clinical picture of eczema and syphilis were exactly the same. The scaling patches on the knuckles would indicate eczema rather that syphilis.

Dr. Bulkley inquired whether the man used wine or beer habitually and said that he had seen similar cases cured by withholding alcohol.

Dr. Trimble said that when the case first appeared he thought it was syphilis, although the color was not suggestive. One part of the border, however, was distinctly defined and there were some papules which seemed significant. Of course he was influenced by the negative Wassermann, though that was not necessarily conclusive, as some 12 to 14% of late syphilitic lesions were negative.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

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Dermatologische Wochenschrift.

(Sept. 14, 1912, lv, No. 37).

Abstracted by Fred Wise, M.D.

Hypersusceptibility of the Skin to Roentgen Rays and to Carbon Dioxide Snow. Bogrow and Grintschar, p. 1147.

Considerable differences of opinion exist among authorities regarding the question of idiosyncrasy to the X-rays, some contending that such an idiosyncrasy is common, others denying its existence altogether. Those who do not believe that some patients are much more susceptible to the X-rays than are others, explain the reported cases of apparent idiosyncrasy by errors resulting from faulty dosimetric instruments and errors in the reading of the various measuring devices. There is no question, however, that certain portions of the integument of the same individual are more easily influenced by the ray than others; also, it has been shown by Holzknecht that the normal skin of the face in young individuals will react to an erythema dose after 2 to 3 H, while in old patients 4 H are required to produce the erythema dose. Children are more susceptible than adults and females more than males, blondes more than brunettes. In pathological conditions, the skin's radiosensibility is heightened in leukæmia, psoriasis, granuloma fungoides and other diseases. It has been shown that active hyperæmia increases the reaction, while passive hyperæmia and ischæmia decrease it. Schultze has shown, also, that the radio-sensibility varies directly with the specific gravity of the tissues under exposure. The very early reactions, or primary erythemas, are probably not due to any hypersusceptibility, but may be explained by some form of physical irritation suffered by the exposed skin before the irradiation of the part.

As to the hypersensibility of the skin to carbon dioxide snow, the authors quote Pusey, who maintains that such a condition exists without a doubt.

The authors give a detailed description of their experiments carried out with careful control tests, upon one of their patients, tending to show beyond a doubt that this individual possessed an idiosyncrasy against both the Roentgen rays and the carbon dioxide snow, as well as against mechanical irritation. The authors think that in this case (one of lupus vulgaris), there may be some connection between the hypersusceptibility and the presence of tuberculo-toxines in the blood stream, or even a mixture of tuberculous and luetic toxines.

The following conclusions are arrived at: 1. Undoubtedly cases occur, in whom the X-ray susceptibility is twice as great as in the normal. 2. Rarer cases of hypersusceptibility to carbon dioxide snow probably exist. 3. The explanation of these phenomena may be sought in the probable decreased resistance against toxines, of the affected tissues and vessels. 4. To avoid the evil effects of over-dosage, the initial doses of both the rays and the snow should be small. The authors speak well of their results in the treatment of X-ray telangiectases with the carbon dioxide snow.

(*Ibidem*, Sept. 21, 1912, lv, No. 38).

The Practical Value of the Complement-binding Method in Gonorrhœal Diseases. LENARTOWICZ, p. 1179

1. The complement-binding reaction with gonococcus antigen is never found in the healthy individual and is therefore specific. 2. Its specificity in gonorrhœa permits of its utility within certain limits, in diagnosis. 3. The greatest percentages of positive reactions are to be expected in those cases of complicated gonorrhœal infections, in which the disease has caused marked exudative changes; the longer the duration of these changes, the more likely is the reaction to be positive. The best results are seen in cases of gonorrhœal perimetritic inflammations and exudations (83% positive) and in cases of gonorrhœal arthritis (80% positive), that is, cases in which corroborative evidences are useful to arrive at the correct diagnosis.

(*Ibidem*, Sept. 28, 1912, lv, No. 39).

A Typical Case of Boeck's Disease, Sarcoid (Miliary Lupoid) of Boeck, Large Nodular and Infiltrating Form. P. UNNA, JR., p. 1203.

Since the appearance of Boeck's original description of what he called benign sarcoid and later, benign miliary lupoid of Boeck, various dermatoses of a somewhat similar character, but differing in many essentials, have been described. Darier has divided the sarcoids into the following groups: 1. The Boeck type (miliary lupoid). 2. The Darier-Roussy type (subcutaneous tuberculide). 3. Erythema induratum-like sarcoid (sarcoides noueuses et nodulaires des membres). 4. The Spiegler-Fendt type of sarcoid (no tubercular round-cell tumors resembling lymphodermia). Twenty-two cases of what Darier considers an anatomical and clinical entity, multiple benign sarcoid of the skin, have been described, to which number the author adds another example. A full description of this case follows, with five illustrations giving a fair idea of the extent and location of the disease. The Wassermann reaction, repeated tuberculin injections and von Pirquet tests were negative. The histological appearance of one of the excised nodules is described in detail; it is characteristic of the disease and should be recognized at a glance, under the low power, as an instance of the miliary lupoid of Boeck, of the large nodular and infiltrating variety. Boeck describes three varieties: the large nodular, consisting of tumors of pea to pigeon-egg size; the small nodular, papular form, the elements rang-

ing in size from a wheat-kernel to a pea; and the diffuse, infiltrating variety, showing less circumscribed plaques. The last may be due to a confluence of the first two varieties.

Unna believes with Darier and Boeck, that we are dealing with a sharply differentiated form of disease, which, should its clinical appearances give rise to doubts, these should be dispelled by the histological picture; for, according to Unna, this picture is unique and not to be confounded with any other dermatosis. Clinically, also, the character of the disease is peculiar to itself. Larger and smaller nodules appear, rather suddenly, without subjective symptoms, some of them in the form of red swellings easily seen on the skin, while others, deep in the cutis, are palpable but invisible. The nodules increase in size by peripheral growth, their development extending over many months. Beside the isolated lesions, some of the nodules are arranged in groups and rows, while here and there are seen diffuse infiltrations, composed of a confluence of the individual lesions and somewhat sharply circumscribed from the surrounding skin. A peculiarity to which Boeck calls attention, is that the nodules are much larger than they appear at first glance and that a true estimate of their size can be obtained only by palpating them. The great multiplicity of the lesions is another point of interest in these cases, as is also the great variety of their shapes, sizes and colors.

The author reviews and summarizes the clinical and histological appearances of the disease as described by the various reporters in the literature. To appreciate the full value of this contribution, a perusal of the article would be desirable.

(*Ibidem,* Oct. 5, 1912, lv, No. 40).

Sebaceous Glands within the Hairs of the Chin. Giovannini, p. 1235.

This carefully prepared and lengthy contribution deals, as the title implies, with an anomaly of hairs removed from the chin of two (male) patients. The author studied eight apparently normal hairs derived from normal skin and sets forth the exact histological findings, together with a dozen very clear and instructive photomicrographs in the text.

The chief anomaly which he describes consists in the discovery, within the substance of the hairs, of true sebaceous glands, some of which consist of a single acinus or sac, while others show two or three ramifications. Seven of these glands are provided with a fine excretory duct. The glands rest upon the base of the follicle or upon the neck of the papilla, their lower ends forming a sort of alveolus which is prolonged into a "gutter" along the surface of the papilla. The duct runs upward through the hair and finds its exit either in the upper end of the bulb, or exceptionally, even higher up. One of the ducts has a blind end within the substance of the inner root-sheath; five of the excretory ducts find their exit at the end of the inner root-sheath, between the naked surface of the hair and the external root-sheath; one of the ducts runs upward and empties itself directly into the base of the follicle infundibulum. Some of the ducts are entirely patent, others only partly so; usually they are filled with sebaceous matter. The basic difference between the sebaceous glands within the hair and the ordinary sebaceous glands within the follicle, lies in the greater length and the finer calibre of the ducts of the intrapilary glands. In connection with the "gutter" which the author describes as existing on the outer surface of the hair, he finds that this "gutter" ends either at the bulb or continues further upward alongside the hair. In the vicinity of this "gutter," the cells of the hair show delayed cornification.

Japanische Zeitschrift für Dermatologie und Urologie.

(Aug. 1912, xii, No. 8).

Abstracted by Fred Wise, M.D.

Tuberculin Treatment of Leprosy. Yamamoto, p. 799.

It is a well-known fact that leprous tissue reacts to tuberculin. In view of the great similarity between lepra and tubercule bacilli, the author decided to observe the effects of the administration of old tuberculin to leprous patients, given in maximal doses, without reaction. The results which he has obtained in thirty cases which he has had under observation since the beginning of 1910 are very gratifying. In eight cases, chiefly of the macular type, all but the motor symptoms have disappeared. The injection is given once a week on the upper arm, the initial dose being 0,0001. The average maximal dose is between 0,001 and 0,002 and may be increased to 0,01. It is to be noted that all of the patients also were given oleum gynocardine or leprol (Shimoyama) internally.

Concerning Salvarsan Fever. Watanabe and Hirooka, p. 809.

The authors come to the following conclusions: 1. Syphilitics react frequently to the intravenous injections. 2. Non-syphilitics usually show no reaction under ordinary dosage. 3. The fever may appear in spite of the strictest adherence to Wechselmann's rules and cautions. 4. The older the disease, the less severe is the febrile reaction. 5. The fever is absent after the second and subsequent injections. 6. The fever seems to be very probably due to the toxines set free by the destruction of the spirochætæ. 7. The rise of temperature is also proportionate to the size of the dose of salvarsan. 8. Variations in the fever are also dependent upon the predisposition and idiosyncrasy of the individual and upon complications. 9. Other by-effects are usually more frequent and more marked the higher the fever, but nausea, vomiting, diarrhœa, abdominal pains, etc., may be due to the effect of the drug alone. 10. It is permissible, in case of need, to employ ordinary sterile tap-water in the preparation of the salt solution.

Methods for Smear Cultures in the Study of Epidermal Fungi. Aoki, p. 838.

Aside from the hanging drop and smear culture methods of studying the fungi, the author reviews other well-known procedures.

1. In Schutz's method the material is teased into minute particles and examined in a drop of peptone-gelatine. 2. Holborn cultivates the fungus on a slide moistened daily with fresh water. 3. The Plaut or so-called *in situ* method. 4. Wallis imbeds the material in an appropriate medium underneath a cover glass. 5. Yamada places the material in a hollow slide and covers with gelatine. These methods possess the disadvantages that the budding of the conidia can not be observed properly and that the fungi can not be properly removed from the slide and cover glass and stained.

The author's method consists in spreading the material on a cover glass with sterile water, teasing it well, and placing a layer of paraffin between the cover glass and the slide so that a space exists between the two, and that the fungus lies in a moist chamber. By this method, the author succeeded in growing the favus and microsporon fungus with much better results than can be obtained by the other procedures.

Contributions to the Radium Therapy of Malignant Growths. Dohi and Mine, p. 872. (*Concluded*).

In addition to the three cases cited in a previous issue, the authors add

observations upon a case of recurrent carcinoma of the vulva and urethra in a woman of 33, a case of cancer of the prostate in a man of 67 and a case of malignant growth of the left partoid region with two metastatic tumors of the neck in a man of 38, all of which were treated by the application of radium. The carcinoma of the vulva healed (no recurrence to date) under the application of a radium button (after Wickham) consisting of 1 cgm. of one million radioactivity, in contact with the growth for 1½ hours during 3 days, without a filter and for 32 hours during 40 days with a filter (1.5 mm. lead plate). The prostatic growth improved markedly under prolonged treatment, but the end results are not known. The parotid growth with its metastases was completely cured, with no recurrence to date, in the third patient.

Concerning Pure Cultures of the Spirochæta Pallida. Nakano, p. 831.

Not adapted to abstracting.

Dermatologische Zeitschrift.

(March and April, 1912, xix Nos. 3, 4).

Abstracted by Philip Frank Shaffner, M.D.

Concerning "Granuloma Pediculatum"—So-Called Human Botryomycosis. W. Heuck, p. 221. (Continued through March, April and May).

Heuck, in a very exhaustive article, reviews all the reported cases in the literature and a number of his own, with histological findings, in an attempt to clear up the confusion existing as to whether this condition is a true tumor (angiosarcoma), or a special form of granuloma. An abstract of this article is almost impossible and unsatisfactory and the contribution should be read in its entirety.

Heuck concludes: (1) The so-called human botryomycosis which is identical with Kuttner's granuloma with telangiectasis, is a specific condition clinically well defined in spite of minor differences in its formation, size and growth.

(2) The name botryomycosis should be dropped and replaced by granuloma pediculatum.

(3) From its histological structure, two groups should be differentiated.

(a) *Granuloma pediculatum simplex* which in the main produces the structure of a granulation tissue except for the tendency to vascular ectasia and proliferation of the endothelial and perithelial spindle cells in various degrees.

(b) *Granuloma pediculatum angiomatosum,* presenting about the same histological findings except for the tendency to the formation of excessively large blood chambers and, also, (mostly) the extensive accumulation of spindle cells.

(4) From the development of the structure, its location and benignancy, one learns that the process is a simple inflammatory granuloma which is produced through trauma and infection.

(5) Granuloma pediculatum is differentiated from the simple granuloma through the pronounced vessel ectasia, the inflammatory proliferation and the marked perivascular collection of spindle cells which is so marked at times that many observers have held the process to be a sarcoma.

(6) Granuloma pediculatum most be differentiated from the genuine tumors and also from Kaposi's pigmented sarcoma by means of its clinical differentiations (forms, size, benignancy) and also because of its histological structure.

(7) Cases in which a genuine tumor, from its external appearance, secretions, etc., might be confused with the picture of granuloma pediculatum, are not familiar to the author.

(8) The ætiology of granuloma pediculatum is not clear; whether the staphylococcus pyogenes aureus plays an ætiological rôle is not known. It is most probable that an infection from without produces the process.

(9) Granuloma pediculatum of the human cannot be considered to be identical with botryomycosis of lower animals according to the present status of our knowledge.

(*Ibidem,* May, 1912, xix, No. 5).

The Intravenous Therapy of Syphilis with Mercurial Preparations. L. Meyer, p. 393.

Meyer employed afridol, an alkaline salt containing 53 per cent. of mercury, and enésol, a soluble salicylate-arsenical preparation of hydrargyrum containing 38.46 per cent. of mercury and 14.4 per cent. of arsenic. These were administered intravenously in a series of cases after having determined experimentally that no destruction of red blood cells or precipitation of the blood albumins occurred with their use.

Afridol was injected in a 2 per cent. solution in quantities of 2 cc. increasing up to 6 cc. In one case where 8 cc. had been employed, dizziness, vomiting, pain in the chest, increased heart rate, etc., occurred; in another, a tonsilar herpes and a scarlatiniform eruption were noted.

Enésol was used in a 3 per cent. solution; the initial dose was 2 cc. increased up to 10 cc. No untoward results were observed.

The average amount of mercury injected in those patients receiving afridol was 0.31—in those receiving enésol, 0.98. The maximal amount of mercury used by the author in giving intravenous injections of sublimate was 0.009. The results were not gratifying. In some of the cases, the luetic manifestations disappeared quickly, in others somewhat more slowly, but in both, recurrences occurred. In still other patients, no effect whatsoever, on the syphilitic manifestations could be observed. Moreover, the positive Wassermann reactions, in the majority of the patients were not influenced by the treatment.

Meyer is of the opinion that the continuous action of mercury on the body where intramuscular injections of the insoluble salts are used, is far more effective on the virus than the intramuscular or intravenous use of the soluble preparations. The author insists that the mediocre results following the use of the soluble salts are not due to the relatively small mercurial content, because in these experiments, very large amounts of mercury were injected with disappointing results. He maintains that mercury is not a spirochætal poison as is salvarsan, but that through the action of hydrargyrum, the tissues are influenced favorably in their combat with the virus. In favor of this is the fact that when a long-continued absorption of mercury takes place, the results are better than when a soluble salt is used.

The Treatment of Syphilitic Nasal Ulcers in the Year 1820. A. Pagenstecher, p. 420.

Pagenstecher publishes an interesting historical note taken from his grandfather's papers, concerning the treatment of syphilitic nasal ulcerations.

A mixture of one to two drams of cinnabar (red sulphide of mercury) is added to one quarter pound of pure tobacco or to three or four cigars. The cinnabar is mixed with water and the tobacco is then dampened with this mixture. The patient smokes this modified tobacco inhaling and exhaling it through his nostrils. This smoke mixture is said to be very agreeable and

effective. Pagenstecher states that no mention is made concerning any untoward results following such treatment.

(*Ibidem,* June, 1912, xix, No. 6).

Cancer en Cuirasse with Vesiculation and Localization on the Skin of the Upper Thigh and Lower Abdomen. M. Neustadt, p. 487.

Neustadt's case presents the clinical picture of a carcinoma en cuirasse with this very atypical and unusual localization. Another interesting feature was the presence of numerous vesicles which appeared in the growth after a biopsy had been made.

Microscopically, all the features of a rapidly growing carcinoma were seen. The hair follicles and sweat glands were involved, but only secondarily. No evidence of the origin of the condition could be seen either microscopically or clinically, there being no demonstrable carcinoma in any of the viscera. The patient (76 years of age) died of an intercurrent infection and a post-mortem examination was not permitted. The vesicles were found to be situated in the lower layers of the rete and appeared to be merely retention cysts due to the obstruction to the lymph flow, the lymph vessels being filled with carcinoma cells. ("Karzinomatosen Lymphbahninfarkt" of Unna).

Ibidem, June, 1912, xix, No. 6).

Tattooing and Syphilis. T. Aoki, p. 508.

The author has endeavored to determine whether the absence of syphilitic lesions in the red-tattooed portions of skin, into which cinnabar, the red sulphide of mercury, had been carried, as contrasted with the presence of lesions in the blue-tattooed areas (the blue of Chinese ink, gall apples, etc.), is due to the inhibiting action of the mercury of the red dye on spirochætæ, as is believed by most observers, or whether this condition is dependant on the fact that the particles of cinnabar are less irritating to the tissues than those of the blue dyes. Aoki conducted a series of experiments, inoculating spirochætæ-containing tissue into rabbit's testicles into which some days previously the red dye, cinnabar, right testicles, and the blue dye, left testicles, had been tattooed.

In his successfully inoculated cases the author found that the blue tattooed tissue responded to the inoculation with the production of a syphilitic lesion while the red (cinnabar) skin gave a negative result. Furthermore, Aoki found that microscopically (contrary to Florange), the particles of cinnabar were pointed and possessed sharp edges, while those of Chinese ink were mostly round, with smooth edges. Aoki, therefore, maintains that cinnabar is not more irritating to the tissues, mechanically, than the blue dyes and that cinnabar has an inhibiting effect on the growth of spirochætæ and that, moreover, that skin tattooed with this dye will offer a definite resistance to invading spirochætæ.

Wiener klinische Wochenschrift.

(1912; xxv, No. 23).

Abstracted by Ernest L. McEwen, M.D.

On the Influence of Salvarsan Treatment Upon the Wassermann Test. R. Müller, p. 872.

Müller emphasizes the need of uniformity in materials and technique in the Wassermann test if correct conclusions are to be reached as to salvarsan therapy in syphilis. He divides the cases which form the basis of his article into (1)

those in which a preventative cure was attempted, (2) those with secondary lesions, (3) those with tertiary lesions, (4) malignant cases, and (5) cases with neurorecidive and chancreform papules. Salvarsan was used in 0.6 gm. doses, once intramuscularly, or in 0.4 gm. doses, twice intravenously within two weeks.

With respect to a preventative cure be found: of 25 cases with medium or weakly positive Wassermann, treated by gluteal injection, practically all became negative in from 4 to 7 weeks; only one-half of these remained negative, the other half becoming positive in from 3 to 6 months, a few of these showing clinical signs of syphilis. Of 48 cases treated intravenously all became negative in a short time. The relative number remaining negative and becoming positive was about the same as with the cases treated intramuscularly; on the whole the effect by the intravenous method seemed less lasting. In the cases with chancre and negative Wassermann, about one-half of those treated intramuscularly became positive in a short time. Of the 20 treated intravenously all remained negative for from 6 to 12 months except two; of these, one showed symptoms in the form of a chancreform papule, the other as a neurorecidive, both appearances being promptly followed by a positive reaction. He concludes that salvarsan as a preventative therapy promises more while the Wassermann is still negative, and that the intravenous method is more effectual than the intramuscular.

144 cases of secondary syphilis were observed. In 85, without clinical recurrence following the treatment, the greater part became Wassermann negative in 4 to 8 weeks; of the remainder, all showed a distinct reduction in the reaction. Of those becoming negative, more than one-half became positive again in from 2 to 12 months. The method of administration seemed to make little difference in the results; possibly the reaction disappeared more quickly following the intravenous method. Of 59 cases with clinical recurrence following treatment, the majority showed a reduction, a few, a disappearance of reaction in from 4 to 8 weeks. At the time of recurrence, usually 4 to 6 months after injection, the reaction in practically all cases was positive. One case, slightly positive at the time of injection, was negative at the time of recurrence. Negative reaction before recurrence was found more often after the intravenous method. In several cases the reaction became positive weeks or months before the recurrence.

In the tertiary cases the change to negative reaction was less frequent. Of 25 cases observed, 5 became negative and were still negative after 15 months.

In malignant cases with secondaries the reaction became negative, later again positive; the malignant tertiary cases showed less tendency to change. The well-known fact that a malignant course is often found with a negative Wassermann seems to show that the test is an indicator of antibody formation. One case with malignant manifestation and negative test, refractory to mercurial treatment, improved under salvarsan as the Wassermann became positive. This would suggest that a negative test with positive symptoms indicates a failure of antibody formation.

Under "chancreform papules" Müller includes lesions of the secondary period which have the induration and appearance of a chancre and, also, healed primary sores which become again eroded. Seven cases were followed. In 6 of these, chancreform lesions appeared in 7 to 8 weeks after a preventative salvarsan treatment; in one the appearance was later. In all cases the papule was at or near the primary lesion and in all the Wassermann was negative at the time of appearance of the lesion, becoming positive about 3 weeks later.

Fifteen cases of neurorecidive were observed. All, at time of treatment, had skin or mucous membrane manifestations; 12 were Wassermann positive, 3

were negative (one showing initial sclerosis, two, with secondaries, which had received vigorous mercurial treatment). The time elapsing after treatment before the appearance of the neurorecidive was from 7 to 12 weeks; 13 of the cases were Wassermann negative at the time of appearance of symptoms; two were faintly positive; all became strongly positive one week after symptoms appeared.

Müller compares the chancreform papule and the neurorecidive as follows: Both are rarely seen in cases treated with mercury; the Wassermann reaction at the time of the appearance of the lesion is negative in both, becoming positive later; both appear about 7 to 12 weeks after treatment. A commonly accepted theory to explain the chancreform papule is that the blood after the intravenous salvarsan treatment, approximates a pre-infective or normal condition; recurrence takes the form of the original lesion and the blood is Wassermann negative. That the lesion occurs near the original chancre is explained by the excess in that region of spirochætæ which are not destroyed by salvarsan. Neurorecidive is not so readily explained. Ehrlich thinks that because of poor blood supply nests of spirochætæ remain in the nerve tissue after salvarsan; against this is the fact that the further use of salvarsan removes the symptoms. If insufficient reduction of spirochætæ in the nerves following salvarsan does not explain a neurorecidive then a tendency to excessive accumulation in nerve tissue must be assumed, which Müller thinks is possible. Finger suggests that the nerves may be damaged by salvarsan in such a way as to permit the rapid development of nests of spirochætæ in them. Müller thinks that treatment should always be given about 7 to 12 weeks after salvarsan even if the Wassermann is negative.

A classical instance showing the comparative effect of treatment by mercury and salvarsan is given. Four children, from 9 to 14 years of age, became infected about the same time and presented the same secondary manifestations. Two were treated with salvarsan intramuscularly and two by mercury inunctions. Symptoms in the first two disappeared rapidly and the Wassermann became promptly negative; in the other two symptoms were slow to disappear and the Wassermann remained positive. In two months all four children appeared with similar recurrences and with positive Wassermanns. The first two were then given salvarsan intravenously twice, the others were treated as before with mercury; the results obtained were exactly as before. A few months later symptoms appeared again, with positive Wassermann. Two years later, two of the children treated by the two methods were seen; both were without symptoms and both had positive Wassermanns.

The author thinks a greater permanency of action on the Wassermann test through salvarsan as compared with mercury has not been established even though it produces a negative reaction so promptly.

Münchener medizinische Wochenschrift.

(July 9, 1912, No. 28).

Abstracted by Faxton E. Gardner, M.D.

Diagnostic Intracutaneous Reaction with Extracts of Spirochætæ. Kämmerer, p. 1534.

The writer has tested Noguchi's luetin reaction in 108 cases. However, he is not able to give absolutely positive conclusions. Tentatively this can be said: The test is neither dangerous nor painful. It is specific for syphilis (1 doubt-

ful case), but a distinction between the genuine specific reaction and common skin inflammation is not *always* possible, though it is possible in a majority of cases. The control inoculation sometimes reacts also. More then one-half of the tested syphilis cases had a negative reaction. The late cases have more tendency to react positively. The many negative results are partly due to the particular allergic condition of the cases and partly to the changes of the spirochætal proteid substances induced by the preparation of the extract. Owing to the "torpid" forms, a reaction may be observed as late as two weeks after the injection.

The reaction is a useful adjunct of the Wassermann reaction and more within the reach of general practitioners than the latter. All depends on the conservation of the *glycerin extract of spirochætæ*.

Indications of the Quartz Lamp in the Treatment of Skin Diseases. Kromayer, p. 1555.

This is an answer to Thedering's article published in No. 24 of the *Münchener medizinische Wochenschrift*. Kromayer confirms the findings of Thedering as to the exceedingly beneficial influence of the quartz lamp on keloids. But he takes issue with Thedering on the question of sycosis and eczema. He claims that the quartz lamp is of great value in these diseases, especially in the very obstinate superficial forms, where it is better than radium. But there, we must use the unfiltered radiations of the lamp, while Thedering seems to have used only the rays filtered through blue glass.

Zeitschrift für Kinderheilkunde.

(July 17, 1912, lv, No. 4).

Abstracted by Harvey Parker Towle, M.D.

What is Scrofula? Karl Hochsinger, p. 293.

Hochsinger begins his paper with the statement that notwithstanding the enormous amount of study which has been given to the subject, the nature of scrofula still remains in dispute. Roughly summarized, the controversy may be said to revolve around the question of whether the cutaneous manifestations, called scrofula, precede or follow infection with the bacillus of tuberculosis.

Hochsinger states his attitude about as follows: There is he says, a condition, a "habitus tuberculosus," which manifests itself in the very earliest infancy by symptoms which closely resemble those of the so-called "facies scrophulosa" of the older writers. While this "tuberculous habit" is usually secondary to a tuberculous infection, nevertheless, the results of the von Pirquet test render it probable that the "habit" may sometimes be a primary condition. In the latter event, it must be looked upon as the stigma of a weakened constitution predisposing to tuberculosis. A secondary characteristic of the "facies scrophulosa" is the development of an exaggerated susceptibilty of the integument and its lymphatics to banal infections and other forms of irritation.

Hochsinger's theory rests upon the supposition that the scrofulous condition has developed upon a latent tuberculosis. This theory of course controverts the prevailing opinion that tuberculosis in infancy is never latent, but always active and always fatal. Hochsinger denies the correctness of that opinion and quotes his own experiences and those reported by several other writers.

He criticizes the alleged value of phlyctenular conjunctivitis to the diagnosis of tuberculosis. In this connection, Hochsinger refers to Walter Pick's report

that in the secretion fom a case of phlyctenular conjunctivitis he found coccidia which were identical with the protozoa found in the body of a louse taken from a scrofulous patient and identical, also, with those found in a pustule of impetigo, a disease which is frequently an accompaniment of pediculosis and eczema of the eyelids. He also refers to Rosenhauch's success in producing phlyctenulas in a healthy animal which had previously received an injection of tuberculin. These facts and others, presented in his article but omitted here, Hochsinger argues, demonstrate that phlyctenular conjunctivitis is not a specific symptom of tuberculosis but is the product of a variety of banal irritations acting upon a tissue hypersensitized by a preëxisting tuberculous infection.

Hochsinger next discusses the theory of the lymphatic and of the exudative diatheses. Although he does not deny that the individual symptoms of the so-called "facies scrophulosa" resemble those commonly attributed to the diathesis he does not consider it necessary to assume that a diathesis must exist before scrofula can develop. In short, according to the author, we are not justified in assuming that there is any specific relationship between scrofula and the exudative diathesis. He believes scrofula, in its characteristic manifestations, to be merely the pathological outcome of unhygienic surroundings. Incidentially, this explains the so frequent association of scrofula with pauperism.

Not every child, he says, that has the "tuberculosis habit" develops later the "facies scrophulosa." On the other hand, nearly every child who develops "facies scrophulosa" exhibits primarily the symptoms of the tuberculous habit. In other words, this "tuberculous habit" is a primary condition which creates a favorable soil for the appearance of the later manifestations in the skin which we call scrofula.

The occurence of true tuberculous foci in the bones, in the skin and in the glands can be explained by the existence of "places of least resistance." That is to say, the occurrence and the situation are more or less determined by traumatic happenings. Through trauma, there is produced a local area of lowered resistance. Then, through some diminution in the skin allergy, the tuberculous organisms, which are already present in the body, wake into new vigor and take advantage of the resultant weakening of the protective conditions to escape from their confinement and to settle themselves in these local areas of weakened resistance produced by trauma. The development of such superficial foci of true tuberculosis is therefore not due to a reinfection, but merely to the revived activity of existing latent tuberculous foci.

Finally, Hochsinger returns to his original question, what is scrofula? He would separate scrofula from tuberculosis for, as he puts it tuberculosis is still tuberculosis. His next question is, shall the symptom-complex expressed by so-called "facies scrophulosa" be labelled scrofula or not? His answer is, the two conditions of scrofula and tuberculosis are essentially heterogeneous things. "The scrofulous exterior and the scrofulous habitus are only fore-stages of the superficial tuberculosis." These prodromal signs Hochsinger would call paratuberculosis præcox. Under this term he groups those changes which develop upon a tuberculous soil as a result of hygienic errors and banal infections of various kinds acting upon a soil prepared for them by a preëxisting tuberculosis. At the same time, we should understand that this "paratuberculosis" predisposes to the later occurrence of superficial tuberculosis.

Although, as stated, Hochsinger would not apply the term scrofula to conditions which are evidently tuberculous, he states that nevertheless there does exist another process which is not truly tuberculous notwithstanding the fact that it has developed upon the ground work of tuberculous allergy. "This is a disease-picture composed of affections of the skin, mucous membrane and

glands which run a chronic, torpid course—the so-called "habitus tuberculosis" —and which, as a rule, react positively to the tuberculin test. Pediculosis and phlyctenules are rarely lacking in the picture." Scrofula is, therefore, a sort of "paratuberculosis præcox" occuring in children previously infected by the germ of tuberculosis, but not as yet subjects of active tuberculosis.

Jahrbuch für Kinderheilkunde.

(1912, xxvi, 3s., No. 26).

Abstracted by Harvey Parker Towle, M.D.

Further Inquiries into the Problem of Scarlet Fever. Felix von Szontagh, p. 1.

In this paper von Szontagh presents the reasons for his belief that the facts do not justify the generally accepted view in regard to the nature of scarlet fever. It is assumed, he says, that scarlet fever is a germ disease which is contagious. The bacteriologists have failed utterly to demonstrate the active bacterial agent, in the first instance, while the clinical facts have been wrongly interpreted, in the second.

The author's argument is to the effect that certain diseases are known to be contagious. The nature of these contagious affections, perhaps differing in details, is nevertheless fundamentally the same in each disease. Therefore, if scarlet fever is a contagious disease, analysis will demonstrate its possession of the general characteristics which have caused the known contagious diseases to be grouped together. For the purposes of comparison von Szontagh has selected measles as the representative type of the known contagious diseases.

The first point which the writer makes is that measles has a definite stage of incubation, scarlet fever has not. It is impossible to say just when scarlet fever begins. In proof, von Szontagh calls attention to the fact that the incubation period of scarlet fever is said to be as short as 4 hours and as long as 33 days. There is no analogy to such indefinite incubation in any disease known to be transmitted by contact. The conclusion is that whereas the incubation periods of the members of the contagious group have well-determined limits, inexactness characterises the alleged incubation period of scarlet fever, therefore we are not justified in assuming that scarlet fever actually has any such stage. Indeed, the facts argue against its existence.

The next point discussed has to do with the influence of contact in the spread of measles and scarlet fever respectively. The crowded school room offers unequalled opportunities for the study of this question through the medium of the school statistics. So undisputed is the fact that the increased contacts of of the schools invariably result in an increase in its spread that measles is know as a "school disease." If scarlet fever is contagious the school reports should reflect the influence of the increased contact by evidence of increased spread. It was demonstrated that the proportion of the number of measles cases was to the number of scarlet fever cases as 100 to 39. As the author puts it, the statistics for the 29 years proved that the disposition to scarlet fever was only two-fifth as great as to measles.

A number of charts are given to illustrate the relative frequency of the two diseases. In general, the characteristic measles curve showed great fluctuations. The influence of school contact was shown by a characteristically sharp rise in the frequency of measles during the school term and a rapid fall during vacation. The characteristics of the scarlet fever curve were almost exactly

the opposite. Its course was comparatively steady and its fluctuations slight. The school term exercised no influence upon it. As the measles curve was reaching its lowest point, toward the end of the vacation period, the scarlet fever curve began to rise and reached its highest point just before the opening of the schools. Therefore, von Szontagh concludes that contact has no influence in the spread of scarlet fever. The final conclusion is that scarlet fever should not be classified as a contagious disease.

From these conclusions the author proceeds to build a hypothesis of his own. Eliminating all details, it may be said that he advocates the theory that scarlet fever is not a disease entity but merely a symptom of disease. Consequently, there can be no unknown specific agent. Admitting this, it is evident that the causative factors must be ubiquitous. The course of the argument then leads to a discussion of conditions in the throat.

It is an undisputed fact, von Szontagh continues, that many varieties of organisms normally inhabit the throat. Most important of these are the streptococci. Again, it is indisputable that streptococci frequently give rise to tonsillitis. Another link in the theoretical chain is then added by the assertion that tonsillitis is an almost constant accompaniment of scarlet fever both when mild and when severe. Obviously other factors must intervene. Otherwise tonsillitis and scarlet fever would be synonymous terms. The author finds the explanation in Trousseau's theory that scarlet fever develops only when certain systemic conditions exist.

The discussion now turns to the erythemas which are commonly ascribed to the action of toxines. Scarlatiniform rashes are known to follow not only intoxication by bacterial toxines, but also by toxic substances from drugs and food-stuffs. Therefore von Szontagh's theory of scarlet fever consists, up to this point, of the conception of the rash as a symptom of a toxæmia, usually the product of a tonsillitis, developing in the presence of certain favoring systemic conditions, but which may also be produced by a variety of banal agents and which is therefore not specific. The author finds additional support for this toxæmic theory in reports of the reproduction of the disease in apes by injections of bacteria-freed, scarlatinal serum, in the lack of immunity as indicated by recurrences and in the failure of the treatment by streptococci sera.

The theory is completed by ascribing the systemic contributing factors which, in the presence of tonsillitis, lead to the rash, to conditions arising from a diminution in the quantity or the strength of the defensive forces in the body. Many affections may produce this result, but the most common are traumata (including surgical) and fatigue induced by over-exertion. Under these conditions, toxæmia may follow. The resulting cutaneous rash is but one expression of an alteration in the cutaneous reactions either of allergy or anaphylaxis. Finally, it is this peculiar effect upon the reactions which distinguishes, although not sharply, scarlet fever from angina.

Archives of Internal Medicine.

(July 15, 1912, x, No. 1).

Abstracted by Harvey Parker Towle, M.D.

The Cobra-Venom Hæmolysis Test in Syphilis, with Report of One Hundred and Thirty Reactions. Willard J. Stone and Richard Schottstaedt, p. 8.

The principle underlying the cobra-venom reaction is stated by the writers to be the formation of a complete hæmolysin through the direct union of the

venom with the lecithin of red blood cells from which the fatty acid radical has been split off. The more loosely the lecithin is fixed in the red cell, the more easily the reaction occurs. Within certain limits, the two substances bear definite quantitative relations to one another, so that the greater the lecithin content of the red cells, the less the amount of venom required for the reaction; and vice versa. On the other hand, with fixed amount of venom, an increase of lecithin beyond a certain point interferes with the reaction.

Weil's discovery that the action of the syphilitic virus rendered the red cells more resistant to the hæmolysis first gave the venom reaction practical value. Weil also demonstrated the fact that repeated injections into rabbits of a hæmolytic agent, such as saponin, had the effect of making the first generation of cells hypersusceptible to the injection, but also of creating a tolerance in the subsequent generations.

Stone and Schottstaedt suggest that the syphilitic virus may produce a similar condition, for it has been found that the red cells are hypersusceptible to the venom during the earliest stages of syphilis. It is not until six or eight weeks after the appearance of the primary lesion that the generations of red cells have acquired tolerance and resist hæmolysis. The value of the cobra-venom reaction begins, therefore, in the early secondary period.

It is worthy of especial notice that much emphasis is laid upon the value of the clinical evidence in the interpretation of hæmolysis tests. It is said that before judging of the value of any method it is essential that the judge should have an accurate idea of what is to be effected. "A hæmolytic test is but one of the links in the chain of evidence."

The value of the cobra-venom test in the diagnosis of syphilis lies in the fact that the later the stage of the disease, the more sensitive is the test in comparison with the Wassermann and other methods. The figures given would seem to confirm the claim. In the early stages, the complement-fixation test gives a higher percentage of positive results than the venom test. In the active secondary stage, the results are approximately the same. From this point onward the venom test yields an increasingly greater number of positive results until, it is said, in the late, non-active, untreated cases, the Weil test is twice as delicate as the complement-fixation test. Stone and Schottstaedt have summarized reports of 4200 positive Wassermann reactions and of 1279 Weil reactions. In active syphilis, the Wassermann test yielded 88.5%, the Weil, 85.4%. In latent syphilis, the first gave 52.1% positive results, the second 78.1%. The writers neglect, however, to indicate what proportion of the totals were active and what latent cases.

Like the Wassermann, the Weil test gives a higher percentage of positive results in the presence of active tertiary syphilis than when the disease is latent. It is claimed that the Weil test gives much the higher percentage. From the last statement is drawn the conclusion that susceptibility to the Wassermann test disappears more quickly than to the cobra-venom test.

Further advantages claimed for the Weil test are a simpler technique, without loss of definition or sensitiveness and less frequent sources of error. As examples of the errors to which the Wassermann test has led, they cite a case of erythema muntiforme in which the Wassermann was positive twice out of three times. The cobra-venom test was negative. The rash disappeared under purgation and continuous observation for several months effectually disposed of the suspicion of syphilis. Whereas jaundice interferes with the complement-fixation test, it has no influence upon the Weil test. In various other conditions, such as leprosy, scleroderma, polycythæmia and scarlet fever, in which competent observors have repeatedly obtained positive Wassermann re-

actions, the Weil method is said to have demonstrated its superior accuracy. On the other hand, the cobra-venom test has been positive in a case of gastric carcinoma and in a case of Addison's disease. The latter is said to have improved under mercurial treatment.

Tuberculous toxine appears to affect the red cells in a manner exactly opposite to the syphilitic toxine. The former renders the cells hypersensitive to the cobra-venom, the latter hyposensitive. The suggestion is made that possibly the venom test may be of value in differentiating obscure cases of tuberculosis from syphilis.

(*Ibidem,* Aug. 15, 1912, x, No. 2).

Pellagra in Illinois; Condensed Report of the Illinois Pellagra Commission. Part 1, p. 123.

In this article the Illinois Pellagra Commission has condensed and summarized the official detailed report of its various investigations. Most of the cases came from the various State and County hospitals for the insane and had been definitely diagnosed since July, 1909. A few were reported from outside sources. During the pellagra season, all old cases were reëxamined for evidences of recurrence. A number of tables and charts accompany the report.

The number of cases totaled 200 males and 208 females. The case mortality was 46.3 per cent. Of the outside cases, 8 were males and 6 were females. The age limit in 258 patients in the Peoria State Hospital varied from 22 to 93 years. The average age was 53.7 years. In 1909, the greatest number of cases had their onset in August; in 1910, in June; in 1911, in May. A table of recurrences reveals the fact that, whereas the percentage of recurrences was 31.25% in 1910, it fell to 13.24% in 1911. The mortality table from the Peoria Hospital assigned pellagra as the immediate cause of death in 78.9 per cent. of the cases and various other causes in 21.1 per cent.

The Commission discusses several of the current theories in regard to the ætiology and symptomatology in the light of their own experiences. For example, the intestinal flora, the relation of diet and dietary variations, the possibility of inoculation through insect bites, the possible influence of environment upon the development of the disease, the sociology of the disease and the influence of contact, were all analyzed. No definite conclusions were reached. Among the suggestive facts reported may be mentioned the doubt which arose in the mind of the Commission as to the importance of the part played by debility and as to the influence of contact. For example, while it was true that pellagrins were quite commonly poorly nourished and enfeebled, pellagra occasionally occured in the robust. Another question was the influence of contact in the spread of the disease suggested by the absolute immunity of the hospital staff. The opinion that chronic insanity is a common accompaniment of pellagra was confirmed, but the statistics of the Commission directly opposed Sambon's theory that pellagra is an agricultural disease. The majority of the Illinois cases came from the largest cities of the State. Furthermore, in the belief of the Commission, the existence of a specific "pellagrous" nervous and mental process is at least questionable.

Clinically, the cutaneous manifestations corresponded to those described abroad. In the majority of the Illinois cases the dorsa of the hands and wrists and some parts of the face, neck or scalp were involved.

From the pathological point of view, the skin processes showed no specific changes. The general picture suggested an angioneurotic process such as is seen in erythema multiforme. No microörganisms were found. Moderately de-

structive tendencies were evidenced by the absence of certain structures. As a whole, the disease process appeared to be either a reaction by the skin to a local toxic irritant or an angioneurotic process influenced from a distant focus.

While the Commission regards the gastro-intestinal symptoms of great importance, they would hesitate to base the diagnosis upon them alone. In general, the symptoms which they observed agree with those generally reported.

A study of the nervous and mental diseases brought nothing definite to light. Aside from the acute delirium, which, cannot be distinguished from the brain reactions to any acute intoxication, the Commission could not discover any condition which could justly claim the title of "pellagrous insanity." In fact, they believe that it still remains to be proved that pellagra gives rise to any peculiar form of chronic nervous or mental disorder. Pellagra does cause symptoms of an acute intoxication which, however, are not characteristic of any particular toxine but which, like other intoxications, may be the exciting cause, in susceptible individuals, of the outbreak of acute psychoses, such as, for example, those belonging in the maniac-depressive group. Nevertheless, the Commission can offer no explanation of the especial susceptibility of the chronic insane to the disease.

Very extensive studies were made of the intestinal flora. Certain conclusions seemed to be at least suggested. (1) In pellagra, especially during the acute attack, there are marked changes in the fæcal flora. The numerical relations of the normal intestinal bacteria were disturbed and certain new varieties were encountered. Protozoa, amœbæ and flagellates were frequently present. (2) Cultures showed similar departures from the normal picture. (3) Three bacterial strains derived from three different cases reacted to agglutination tests with the sera of pellagrins in other institutions. But these organisms were also agglutinated by sera from non-pellagrous insane patients and by sera from apparently healthy individuals. (4) Other suggestive results were obtained by agglutination tests of bacteria probably closely related to Bacillus coli.

The study of the stools of pellagrins showed the presence of amœbæ in 15.5 per cent. of the recently admitted cases. As later examinations determined their presence in 20.2 per cent. of the cases examined, the number of the infected individuals must have increased during residence in the hospital. Probably, however, the majority of the organisms are non-pathogenic.

The most marked change constantly found in the blood was a relative lymphocytosis with an apparent diminution in the proportion of the large mononuclear leukocytes. Five out of 9 cases showed eosinophilia without any apparent connection with amœbiasis.

The only constant change discovered in the urine was a marked indican content. Daily variations in the amount, color and specific gravity of the urine were frequently striking, but were not always present.

The course of the disease was acute in the majority of cases and the onset abrupt. The skin eruption was usually the first symptom observed, although a certain proportion of cases began with a chronic, often severe, diarrhœa with more or less stomatitis. Severe mouth symptoms seemed to be of fatal import. In some instances the pellagrous symptoms greatly improved or even disappeared without corresponding improvement in the general condition. On the contrary the patient declined. The picture of a central neuritis developed and the end followed quickly. It is suggested that this condition may be analogous to the development of post-diphtherial peripheral neuritis.

The general impression of the Commission is that the symptoms of pellagra are produced by some diffuse toxic state rather than by a blood-borne infection. Moreover, the clinical conclusions that the nervous system was only secondarily involved and late in the disease was confirmed by the pathological findings.

Public Health Bulletin No. 47.

Public Health and Marine-Hospital Service of the United States.

(Sept., 1911).

Abstracted by Louis Chargin, M.D.

Studies Upon Leprosy: Cultivation of the Bacillus of Leprosy. D. H. Currie, M. T. Clegg and H. T. Hollman, p. 3.

A comprehensive review, in chronological order, of the literature is given and the results of their own work noted. After the technique of Clegg, they have succeeded in growing acid-fast bacilli 16 times from 15 cases of leprosy and have isolated such bacilli 7 times in pure culture. They give a description of cultural characteristics (on 12 different media) of 6 of their organisms and compare them with cultures of other members of this group (grass bacillus of Moeller, Bacillus margarin and Bacillus smegmæ).

Serum tests made resulted as follows: In any dilution below 1:1000, marked clumping occurred. When dilutions below 1:500 were used, very strong clumping resulted. The serum did not clump any other of the acid-fast bacilli. They note that a 1:40 dilution seems to be bacteriocidal for the strains of Bacillus lepræ.

Summarizing their findings they state: 1. There is no appreciable difference between their 6 different cultures of Bacillus lepræ. 2. No very marked cultural differences exist in the 9 different organisms (6 strains of Bacillus lepræ and the 3 other acid-fast bacilli) experimented with. 3. Culturally, the Bacillus margarin especially resembles the Bacillus lepræ. 4. The serum of a horse that has been immunized to their strains of Bacillus lepræ (4 in number) strongly clump all their organisms, but fails entirely to clump the grass bacillus of Moeller, Bacillus margarin and Bacillus smegmæ.

The authors concluded: 1. That by the method of Clegg it is possible to grow an acid-fast bacillus morphologically similar to the leprosy bacillus in tissues of lepers. 2. That by heating, in the manner indicated by Clegg, a mixture of the cholera and amæba symbiants and the multiplying acid-fast organism, it is possible to isolate this acid-fast organism in pure culture. 3. That this acid-fast organism from lepers resembles in cultural peculiarities other members of this group (Bacillus margarin, Bacillus smegmæ, etc.), but that serum tests are capable of demonstrating that a difference exists between them. 4. That up to the present time, the only evidence that the acid-fact organism is the Bacillus lepræ, is the frequency with which these bacilli can be grown from leprous tissue, its morphology and acid fastness.

Attempt at Specific Therapy in Leprosy. D. H. Currie, M. T. Clegg, and H. T. Hollman, p. 23.

The authors review and discuss at some length the most important literature on the subject and summarizing this they state, that the remedies (tuberculin, iodine, serum, venom, etc.) hitherto used, are indeed capable of producing reactions (softening and disappearance of nodules, development of new ones, etc.), but such reactions depend upon the fact that any marked disturbance in metabolism in lepers will produce them. They cannot be interpreted as specific in nature. They proceed to describe in detail the manner of preparation of the various substances which they have produced from their cultures of Bacillus lepræ for experimental purposes. These substances are: (a) vaccine, (b) live cultures of Bacillus lepræ, (c) lepratoxine, (d) fatty substances of the Bacillus

lepræ culture, (e) "Sensitized" killed culture of Bacillus lepræ, (f) serum of a horse immunized to Bacillus lepræ.

The results of animal experimentation with these substances are noted. In tabular form the author gives histories of 13 patients treated. Though they can report on but a small number of cases, they believe their efforts to have been sufficient to permit them to form some opinion as to the utility of their preparations and the following may be stated:

1. That vaccine cannot advantageously be employed unless small doses are used, owing to slow absorption and abscess formation. 2. Live cultures of Bacillus lepræ are deserving of a trial. 3. Toxines prepared from Bacillus lepræ after the method of Koch's old tuberculin and bacillus emulsion appear to have little or no value. 4. The fatty extract of bacillus lepræ has not been employed for a sufficient length of time to determine its value. 5. The horse serum prepared has been without any beneficial results, but from the fact that such serum strongly agglutinates Bacillus lepræ cultures, the authors hope that by increasing the potency of the serum it may be brought to a point where it may be of benefit in the treatment of this disease.

Virginia Medical Semi-Monthly.

(August 23, 1912, xvii, No 10).

Abstracted by Louis Chargin, M.D.

The Rôle of Psychotherapy in Pellagra. G. M. Niles, p. 241.

Niles urges greater consideration for these patients and believes much can be accomplished by psychotherapy. Cheerful suggestion, warm-hearted encouragement, etc., though not curative will help to make the lot of these unfortunates more bearable.

Some Recent Developments in the Treatment of Syphilis. H. H. Hazen, p. 246.

A résumé of some of the recent work in this field.

(*Ibidem,* Sept. 13, 1912, xvii, No. 11).

Some Observations Upon the Treatment of Syphilis. C. O. Abernethy, p. 274.

The writer thinks salvarsan a distinct advance in syphilis therapy and advises the combined method controlled by the Wassermann reaction.

New York State Journal of Medicine.

(Sept., 1912, xii, No. 9).

Abstracted by Louis Chargin, M.D.

Syphilis of the Stomach. Jerome Meyers, p. 531.

Meyers reports in detail an interesting case of gastric syphilis and gives a lucid discussion of this condition. His conclusions embody the most salient points and are in part as follows: (1) It is a rare manifestation of syphilis, occurring mostly in males, especially in the 4th and 5th decades. (2) Its pathology is characterized by a variety and plurality of lesions in the stomach. (3) These four symptoms are fairly common either singly or combined: (a) pain especially immediately after eating; (b) emaciation; (c) tenderness; (d)

hæmorrhage. (4) We may classify syphilis of the stomach under: (a) ulcer and its results; (b) gumma and its sequelæ; (c) wide-spread gummous or fibrous infiltrations leading to deformity, etc.; (d) any combination of these. (5) Though as a rule difficult, with a clear history and a positive Wassermann, the diagnosis should be comparatively easy. (6) Mercury and iodides give brilliant results. Appended is a table of all cases reported with a comparison of the findings.

Canadian Practitioner and Review.

(Sept. 1912, xxxvii, No. 9).

Abstracted by Louis Chargin, M.D.

Two Cases of Angioneurotic Eruption Due to Aspirin. H. B. Anderson, p. 510.

The first patient, a lady of 40 years, has always exhibited an idiosyncrasy for certain drugs. For an attack of influenza aspirin in 5 gr. doses was prescribed. After taking 2 doses swelling of the face and parts of the extremities occurred. The drug was discontinued and the eruption disappeared within 24 hours. The second case was in a lady of 35. Upon taking a 5 gr. dose of aspirin a marked generalized urticaria with swelling of entire face developed. This was accompanied by intense itching and general depression. The drug having been discontinued the condition cleared up in a few days.

Pacific Medical Journal.

(Sept., 1912, lv, No. 9).

Abstracted by Louis Chargin, M.D.

The Specific Treatment of Pellagra. E. H. Martin, p. 539.

The author assumes that the reaction following salvarsan therapy in syphilis is due to endotoxines. Similarity of the reaction following salvarsan administration in pellagra makes it probable, so the writer thinks, that the pellagra organism is a spirillum. The character of the reaction being analogous to that following salvarsan injections in nervous syphilis, he thinks points to the fact that the pellagra organism affects mainly the brain and spinal cord. Salvarsan being a specific in diseases due to spirillæ, it is a specific in pellagra.

Canadian Medical Association Journal.

(August, 1912, ii, No. 8).

Abstracted by Louis Chargin, M.D.

Some Experiences with Radium. G. S. Ryerson, p. 687.

Personal experience has led the author to regard the following factors in the treatment of sarcoma, epithelioma, nævus, etc.: (1) Strength of the radium. The radium should be of great strength and the dose a strong one. (2) Duration of application. In superficial disease short exposure (15 minutes to 2 hours) is advisable. Where the disease is deeply situated sittings of from 6 to 48 hours are required. (3) Amount of filtration. The deeper the penetration desired the thicker the screens and the longer the application. (4) Age of

patient. Very old people (8th decade) do not do well with radium. The author has had good results with persons in the sixties and seventies. (5) Location of the disease. Considering the character of the diseases when the skin is involved the results are good. On the other hand mucous membrane lesions do not do so well as a rule. A case of psoriasis of the nails has markedly improved under treatment.

Journal of the Missouri State Medical Association.

(August, 1912, ix, No. 2).

Abstracted by Louis Chargin, M.D.

Report of the Committee on Cancer Investigation. F. J. Lutz, p. 43.

Data with reference to marital state, decades of life, race and nationality of patients are recorded in this report.

(*Ibidem*, Sept., 1912, ix, No 3).

The Vaccine Treatment of Skin Diseases. H. M. Lyle, p. 73.

Lyle's experience with vaccine in pustular skin conditions is quite favorable. It is only in impetego contagiosa that the usual course was not affected.

Lancet Clinic.

(August 24, 1912, cviii, No. 8).

Abstracted by Louis Chargin, M.D.

Cardiac Syphilis with Special Reference to Aortic Aneurism and Regurgitation; and the Value of the Wassermann Reaction in Determining Their Ætiology and Treatment. R. H. Babcock, p. 201.

The Wassermann reaction has cleared up the ætiology of the diseased conditions hitherto but vaguely understood, especially so of certain neuroses and cardio-vascular diseases. Warthin's findings, the author thinks, point to the reasonable assumption that in acquired lues the microörganisms may show a selective action for the myocardium or aorta. He lays special stress upon the ætiologic relation of lues to aortitis. In aortic regurgitation, where not due to rheumatism or recurrent tonsillitis, he suspects syphilis and this is very often borne out by the serological findings. Sixteen cases of aortic regurgitation and 10 cases of aortic aneurism gave positive Wassermann reactions in 93.7% and 70% respectively. Here anti-specific treatment resulted in marked improvement in the majority of cases. While we cannot by anti-specific treatment remove organized pathological structures (fibrosis, etc.), we can check active processes and thus prevent further damage. Furthermore, distressing subjective symptoms can be greatly ameliorated. Mercury he considers the remedy par excellence. Salvarsan must be used cautiously. The author reminds of the possibility of cardiac as well as other visceral affections in early lues and urges vigorous and persistent treatment.

(*Ibidem*, August 31, 1912, cviii, No. 9).

Report on a Case of Pellagra. A. Ravogli, p. 228.

The author reports a case of incipient pellagra and gives an interesting discussion of the ætiology of the disease.

St. Paul Medical Journal.

(Sept., 1912, xiv, No. 9).

Abstracted by Louis Chargin, M.D.

Noguchi and Other Reactions. A. H. Sanford, p. 461.

The Noguchi reaction is detailed and the author's experience with it (and that of others) noted. Several other modifications are briefly described.

The Clinical Significance of the Wassermann Reaction. H. L. Ulrich, p. 471.

The author analyzes the various reports on the Wassermann reaction and sets down the conclusions that may be drawn.

The Treatment of Syphilis. J. M. Armstrong, p. 483.

Armstrong expresses his faith in the combined treatment and thinks that a persistent, negative Wassermann reaction and perhaps a negative luetin reaction as well, can be interpreted as a cure. To the question, "am I cured" he replies by quoting Fournier, "Yes, as far as we have a right to believe so scientifically."

Interstate Medical Journal.

(August, 1912, xix, No. 8).

Abstracted by Louis Chargin, M.D.

Precautions in the Use of Tuberculin in Therapy. F. M. Class, p. 667.

This paper is written with especial reference to lung tuberculosis. The author points out that the keynote to successful tuberculin therapy is "better never enough than one overdose."

Yale Medical Journal.

(May, 1912, xviii, No. 9).

Abstracted by Louis Chargin, M.D.

Experiences with Salvarsan in the Treatment of Syphilis. J. M. Flint and W. F. Cunningham, p. 368.

In this series of cases the authors' experience is in accord with those of others. They think that the combined treatment governed by the Wassermann reaction results in better control of the disease than was formerly the case.

Southern Medical Journal.

(August, 1912, v, No. 7).

Abstracted by Louis Chargin, M.D.

A New Treatment of Pellagra, with the "Organo-mineralized Radio-activated Serum" of Dr. Jean Nicolaidi, Paris, France. J. Nicolaidi, p. 464.

Studying the nutritive changes in pellagrins, Nicolaidi recognized the two following indications: (1) The neutralizations of the "toxine" or "virus" which

pellagra produces. (2) The awakening of the activities of intracellular nutrition. For the purpose of bringing this about he made use of an "artificial organo-mineralized serum" which he rendered radio-active, doing the latter upon the basis of the bacteriocidal effects of radium and its power for causing increased activity of tissues. Experimenting with this serum upon animals he found their nutrition favorably influenced.

He then undertook a series of experiments upon pellagrins, choosing the serious cases with pronounced gastro-enteric and nervous symptoms. The results being eminently satisfactory he was commissioned by the Roumanian and Italian Governments to apply the serum in a number of cases. After a trial, Dr. Venesco, General Director of Sanitary Service, stated that the remedy was efficacious against pellagra, the improvement beginning after a few injections. Especially favorably influenced are the digestive and nervous symptoms. Other Roumanian and Italian observers express themselves in similar vain.

The injections are given every other day, into the buttocks, 25 to 50 cc. being given at each treatment. A course consists of about 20 to 25 injections. The effect upon two severe cases is described in detail, both patients being practically cured at the end of the course.

Certain Aspects of the Pellagra Question. C. H. Lavinder, p. 476.

An excellent review; nothing essentially new.

American Journal of Urology.

(August, 1912, viii, No. 8).

Abstracted by Louis Chargin, M.D.

Intravenous Administrations of Sublimate, Hyrgolum, Oxycyanide and Sublamine in Salvarsan Relapses. M. L. Heidingsfeld, p. 434.

The writer lays special emphasis upon the value of the Wassermann reaction as a control in the treatment of syphilis and says: "To treat a case of syphilis without the aid of a Wassermann control is virtually attempting to sail a ship on the boundless main without the directing aid of compass or rudder."

In a series of 480 cases observed, salvarsan alone failed to effect, from the complement-fixation standpoint, a favorable result in about 40 per cent. of the cases. Where combined medication (gray oil intramuscularly) was employed, the results were more favorable. There was still a certain percentage of cases that failed to proceed to a satisfactory complement-fixation test and this led the author to the use of intravenous injections of a variety of mercurial preparations in the hope of evolving a more effective method of mercurial treatment. He experimented with bichloride—11 injections; hyrgolum—92; oxycyanide of mercury, 114; and sublamine—15. Of the 69 cases which had failed to promptly become negative under salvarsan and mercurial administration in other than intravenous form, 23 per cent. became absolutely negative and 15 per cent. have shown marked improvement under this new method. The writer feels encouraged and recommends this mode of treatment for further observation. The preparation he especially recommends is the oxycyanide of mercury in dilutions of 1-1000 and in doses of .02 gm.

BOOK REVIEW.

Compendium of Diseases of the Skin. By L. Duncan Bulkley, A.M., M.D. Fifth revised edition of the Manual of Diseases of the Skin. *Paul B. Hoeber,* New York. Price $2.00.

The present compendium is practically a fifth edition of the old manual, for, except the new name, the whole work is about the same as it was, after the revision of a dozen or more years ago. It contains but very little that is new and remains what it was then, "an introduction to the subject."

The reviewer doubts very much if the book will serve as a "further incitement" to the study of dermatology, for it is so convincingly written, that the general practitioner, for whom it is intended, will be led to think that he is able to cope with most of the simpler skin diseases, not recognizing the fact that this work is only a hint on the treatment of these diseases; in fact, it is a question if this "compendium" would not be of more value to the trained specialist, who could read between the lines and thus gain valuable hints, which have eminated from the author's vast experience.

The best part of the book is the chapter (XXI) on therapeutics, which contains many useful formulæ.

After all, this work is what the author claims for it "a personal one" and will undoubtedly be of value to any one interested in dermatology.

One interesting feature of the present edition is the absence of a title page; this is probably an oversight on the part of the Publisher.

J. M. W.

NOTICE.

THIRTY-SEVENTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The 37th Annual Meeting of the American Dermatological Association, in conjunction with the session of the Congress of American Physicians and Surgeons, will be held in Washington, D. C., early in May, 1913.

The subject for general discussion will be "Pityriasis Rosea—Symptomatology, Ætiology and Treatment."

The Council, having departed from the time-honored custom of selecting one or two members to especially introduce the subject, have directed the preliminary notice to be sent thus early in order to give the members ample opportunity to prepare for the discussion.

Members of the Association are earnestly requested to either prepare for this special discussion, write papers on other subjects, or otherwise contribute to the scientific program.

The Secretary would greatly appreciate having the titles of all papers in his hands by the first of February, 1913.

J. M. Winfield, M.D.
Secretary.

47 Halsey St., Brooklyn, N. Y.

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Annex

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Annex

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